A COMPARISON OF THE LEARNING DISABILITIES RESOURCE ROOM AND REGULAR CLASSROOM ACTIVITIES DURING TIME ALLOCATED FOR READING INSTRUCTION

BY

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This work is dedicated
to a very special bunch of kids:

Jesse Delago, John White, Stefanie Browne,
Wilbur Likens, and Jimmy Olson
who were with me at Lake Weir Middle School;
and
my son, J.C.

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Abstract of Dissertation Presented to the Graduate Council of
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A COMPARISON OF THE LEARNING DISABILITIES RESOURCE ROOM AND REGULAR CLASSROOM ACTIVITIES DURING TIME ALLOCATED FOR READING INSTRUCTION

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During the past half century the growth of special education has been extraordinary. In addition to expanding services to children with previously identified handicaps, special education has extended services to many new categories of exceptional children, such as the learning disabled. Regardless of the type or severity of the handicap, the education provided is assumed to be different, or special.

This study was designed to investigate the instruction provided seven learning disabled third through fifth graders in both the regular classroom and the LD resource room during time allocated for reading.

Observers using time sampling procedures coded activities, tasks, and student responses at 15 second intervals in both settings for five days. In addition, the performance level of student responses was examined.

Descriptive and comparative information of both settings was provided through anecdotal notes and time use data. Total minutes and percent of time allocated for reading were examined. A comparison between settings was performed using dependent _t_-test procedures.

Only one other area has been investigated. The results of this study were consistent with those findings. While some significant differences were identified, resource and regular classrooms were observed to be more similar than different.

CHAPTER I

INTRODUCTION

The current examination of America's schools and schooling has created a new environment for questioning assumptions basic to America's education system. The belief that public education has been adequate for educating America's youth has been strongly challenged. The number of high school students unable to pass basic skill competency tests, declining test scores on nationally administered tests, and reports of poor comparisons between U.S. students' scores and those of students from other countries have been cited as an indication of the decline of academic standards in U.S. schools (Bakalis, 1983; Goldberg & Harvey, 1983). The American public continues to express dissatisfaction with the education provided its children; a need for educational reform on a national level has been proposed by many business leaders, politicians, parents, and educators (Bell, 1984; Elam, 1983; Goldberg & Harvey, 1983).

While the field of education has been and continues to be under critical review, some areas within the field have shown growth or improvement. One such area is special education. In a Report of the Council for Exceptional Children Ad Hoc Committee (1984) several gains in the quantity and quality of special education within the past few decades were identified. For example, regardless of the type or severity of the handicapping condition, all handicapped children now have access to a free public education. In addition, special education has expanded the age range of children receiving services and extended the types of services provided. Other areas of improvement noted by the Committee were increased parental involvement and improved teacher training programs. While teacher training programs in general education have received criticism regarding the quality of their graduates, the Committee noted that teacher education programs in special education have attracted and trained the high quality of personnel needed to provide excellent education programs.

Although special education has made qualitative and quantitative gains, critical review of policies, programs, and procedures is appropriate. As recommended by the Council for Exceptional Children Ad Hoc Committee, research within the field is a continuous need. One area of investigation should be "how special is special education?"

Although handicapped individuals have always existed, it has only been within the past 300 years that Western society has sought to provide services or care to them (Kauffman, 1976). Those first provided special services were individuals with more severely limiting and usually more obvious handicaps: the blind, deaf, crippled or severely retarded. Services for the handicapped began as private institutions and schools. State funded facilities began to appear about 100 years ago (Hallahan & Kauffman, 1982). Whether funded through state or private monies, only select types or categories of handicapped children were able to attend, for students had to meet specific requirements to be eligible for services.

Early services received by the handicapped were primarily for basic care with little emphasis on education. Gradually some education was included, usually in areas such as communication, mobility training, and vocational skills. Teachers were trained at the residential center or school and the type of education and care available reflected the knowledge and expertise practitioners had gained at the facility (Kauffman, 1976; Kirk, 1972; Kirk & Gallagher, 1979). Institutions such as the Wayne County Training School in Michigan, for example, not only provided residential care, but a research facility and teacher training program as well.

Within the past half century, increased knowledge, interest, and concern for handicapped children have resulted in an area of education with its own funding, training programs for teachers, and education practices. From providing care and limited training to small numbers of children within a few handicap categories in the 1800's to the variety of education services available today, special education has demonstrated extraordinary growth. The number of children receiving special education has increased from 442,000 in 1948 (Reynolds & Birch, 1982) to 3,234,000 in 1980 (U.S. Bureau of Census, 1984). Teacher training programs for the handicapped have evolved from training programs provided at residential facilities to over 800 college and university teacher training programs in special education (Irvin, 1978). The amount of money spent on providing special education to America's children has also increased. The first education funds provided by Congress for the handicapped were appropriated in 1858 at a rate of $3,000 per year for five years to the Columbia Institute for the Instruction of the Deaf, the Dumb, and the Blind. Federal contributions to the education of the handicapped, reported by Ysseldyke and Algozzine from a 1980 Report to Congress, were $564 million (1983). The need to provide the handicapped student with appropriate care and education has resulted in the establishment of special education as a major subdiscipline of public school education.

Several factors have contributed to this growth. During the mid-20th century the needs of disabled veterans returning from World War II and Korea added to the general knowledge of handicapping conditions as well as specific education needs. The formation of influential parent groups also stimulated additional growth in special education. Politically active groups such as the National Association for Retarded Children, the National Society for Crippled Children, and the United Cerebral Palsy Association helped spur the development of special education (Cain, 1976; Hallahan & Kauffman, 1982).

Another factor was the increase in the number of children identified or labelled as handicapped. This increase was the result of the expansion of already existing categories and the addition of new categories within special education. During the 1930's many children who would not have been considered handicapped in 1900 were referred, labelled, and placed in special education classrooms. Categories expanded to include more types of children. The category of the mentally retarded is one example. It was expanded beyond providing services for the severely handicapped to also include mildly and moderately retarded children.

Other increases in special education were a result of defining new categories of handicapped children. The first children to receive special education were the severely handicapped. These children are considered more mildly handicapped and comprise the greatest percentage of handicapped children currently receiving special education services in the public schools (U.S. Office of Education, 1975; 1979). One of the new categories is the learning disabled. While under investigation during the early part of this century, learning disabilities became a specific category in special education in the 1960's. Currently over one-quarter of all handicapped children are categorized as learning disabled which is approximately 1.9% of the school aged population in the United States (Lerner, 1981).

Regardless of the type or severity of a child's handicap, the intent of special education has remained the same. The handicapped child, unable to perform or achieve in the regular classroom, went to a special classroom for "special" education. There instruction was to be provided by teachers with specialized training in the curricula, instructional strategies, programming, and management systems needed by the handicapped child (Larsen & Poplin, 1980). Regular education was inappropriate; special education was assumed to be more appropriate.

Statement of the Problem

For some categories of handicapped children, the differences between regular and special education can be easily determined. Education provided blind or deaf children (such as instruction in braille, sign language or mobility training) is different than the education provided in the regular classroom. With other categories of handicapped children, differences between the regular classroom and the special education classroom may be more difficult to identify. For example, the arithmetic or reading instruction provided a learning disabled child in a special education classroom may appear very similar to the arithmetic or reading instruction provided in the regular classroom.

Whether the child's handicap is mild, moderate, or severe, the placement of a child in a special education classroom must be based upon where the most appropriate education is available to meet his needs (Federal Register, 1977). Removal from a regular education class to a special education class must be because the available education is inappropriate for the child (Kirk & Gallagher, 1979; Reynolds & Birch, 1982). If the education which occurs in the special education classroom is similar or the same as that already being provided in the regular classroom, the need for special education placement may not be justified.

The problem addressed in this investigation was: is the special education classroom meeting the handicapped child's needs by providing different or special education? The specific question addressed was: to what extent was the education provided in the special education classroom different than the education provided in the regular classroom for the learning disabled child?

Purpose of the Study

The purpose of this investigation was to describe and compare how learning disabled (LD) students are engaged during reading time in a learning disabilities resource room and a regular education classroom. Specific questions addressed were

1. How much time was allocated for reading in both settings, and of that time, how much time did learning disabled children spend engaged in reading instruction or reading activities?
2. During time allocated for reading in both settings, what percent of time was spent by learning disabled children in different instructional activities?
3. During time allocated for reading in both settings, what percent of time was spent by

learning disabled children in different instructional tasks?

4. During time allocated for reading in both settings, what percent of time was spent by learning disabled children in different responses to tasks?
5. During time allocated for reading in both settings, what was the performance level of students' active responses on reading practice exercises?

Population Investigated

Because of the exploratory nature of this study it was limited in focus to the education provided the mildly handicapped child rather than the more severely handicapped. Education of the mildly handicapped child often appears similar to instruction in the regular education classroom. In addition, the mildly handicapped often attend both the special and regular education classrooms. Educational responsibility for these children is shared by both special and regular education teachers (Wiederholt, Hammill, & Brown, 1978).

The mildly handicapped also comprise the largest portion of handicapped children served in the schools (Meyen, 1978). As indicated by the results of the National Survey of Individualized Educational Programs cited by Ysseldyke and Algozzine (1983) 51% of handicapped children are considered mildly handicapped, 36% moderately handicapped, and 13% severely handicapped.

Finally, it is more expensive to educate a handicapped child than a non-handicapped child. While children with severe handicaps are more expensive to educate than the mildly handicapped, the average per-child cost for educating an elementary aged mildly handicapped child in 1977-1978 ranged from approximately $900 to over $3,000 beyond the cost of educating a non-handicapped elementary aged child (Ysseldyke & Algozzine, 1983). Providing a special education for the mildly handicapped child is costly.

One category of mildly handicapped was chosen for examination in this study: the learning disabled. Learning disabilities is one of the most prevalent of mildly handicapping conditions. In 1979 25.6% of school aged handicapped children were labelled learning disabled (U.S. Office of Education, 1979). By definition, the learning disabled child is a child with academic problems in areas of reading, mathematics, writing, or spelling (Federal Register, 1977). The child's handicap makes learning in the regular classroom difficult so placement in a special education class may often be warranted. The most common placement for the learning disabled child is a resource room, where the student attends special education for part of the day and regular class(es) for the rest of the school day (Wiederholt et al., 1978). Since instruction occurs within both special and regular classrooms, comparisons between settings are possible.

Finally, this investigation examined one area of instruction: reading. Reading been identified as an important component of schooling directly related to success in school and feelings of self-worth (Athey, 1976; Brabner, 1969; Carnine & Silbert, 1979). It is also the most common academic problem area for the learning disabled child. While 10-15% of the general population have reading problems, 85-90% of all learning disabled students have been found to have reading problems (Harris & Sipay, 1980; Kaluger & Kolson, 1978).

Examining what occurs during reading instruction for learning disabled children provides a common area of comparison between both settings. If reading instruction occurs in both settings, the instruction in one setting should be more appropriate in meeting the child's needs than the instruction available in the other.

Delimitations

The scope of this investigation was delimited in three ways. They were

1. The population of subjects was selected from the learning disabled students attending North Dakota public elementary schools.
2. Only public school students in the upper elementary grades (third, fourth, fifth, and sixth) were included in this investigation.
3. Only active responses which resulted in a countable behavior, such as written responses, reading aloud, and/or performance in an academic game, were considered when success rate was examined.

Limitations

This investigation was limited by four conditions beyond the control of the researcher. They were

1. The sample of students selected from the North Dakota public school children may not be similar to or representative of children from other areas of the United States.
2. The students were identified as learning disabled through the use of North Dakota criteria and the decision of placement teams in the local school districts.
3. Observer error could have occurred during data collection.

4. Observations were made in April and May. The classroom activities which occurred at that time may not be representative of year-long instructional patterns.

Definitions

The following definitions of terms important to this investigation are provided to insure greater consistency in the interpretation of the results.

Learning disabled. A learning disabled or learning disabilities student (LD) was defined as a child who met North Dakota criteria for services or placement into a program for learning disabilities students. The criteria used by North Dakota regarding the learning disabled are provided in Appendix A.

Resource room program. "A resource room is any setting in the school to which a child comes to receive specific instruction on a regularly scheduled basis, while receiving the major part of his/her education elsewhere, usually in the regular class program" (Wiederholt et al., 1978, p. 4).

Regular class program. The regular class program was defined as the classroom where general academic instruction occurred for non-handicapped students.

Upper elementary school program. Upper elementary school programs refer to a public school program consisting of grades three through six.

Instructional activities. Instructional activities refer to the type of activity in which the student was engaged. Specific instructional activities included were reading, free time, class management/business, transition, and other activities. These were defined as

1. Reading Activities referred to activities and instruction related to reading, specifically oral or silent reading from books; discussion of words, sounds, vowels, consonants, or phonics. It did not include spelling instruction (copying spelling work, spelling tests, and use of the dictionary to define spelling words) or handwriting instruction or activity (defined as instruction which focused on the mechanics of writing letters or words, such as how to hold a pencil, how to move the arm, discussion of the size of letters or lines on paper).
2. Free Time referred to time during which the student could choose any activity, either academic or non-academic. Study time was included as a free time activity.

3. Class Management/Business referred to those activities which focused on scheduling or general information dispersal.
4. Transition Activities were defined as the time which occurred between activities; generally the teacher signaled the end of one activity ("put away your things") and prepared for a new activity.
5. Other Activities referred to those activities which were not included in reading, free time, class management, or transition activities.
6. Can't Tell referred to activities in which the observer was not able to categorize what type of activity the student was engaged in.

Academic tasks. Academic tasks referred to the type of material used by the student for instructional activities. Seven types of academic tasks (workbooks, worksheets, paper and pencil tasks, listening, student-teacher interaction, other media, and other tasks) were identified. They were defined as

1. Workbooks referred to paperbacked material in which the student could write, even if the student was instructed by the teacher to write on a separate paper or in a notebook.
2. Worksheets referred to separate commercially prepared or teacher prepared sheets on which the

student wrote. Blackboard writing by the student was also included in this category.

3. Paper and Pencil referred to tasks in which the student wrote on paper or in a notebook using a pencil, pen, crayon, or magic marker.
4. Listen referred to tasks in which the student listened to the teacher talking or watched the teacher writing on the blackboard. The student was to be looking at the teacher.
5. Teacher-student Interaction referred to tasks in which the student spent time talking with the teacher, asking/answering questions, reading aloud with the teacher or other similar actions.
6. Other Media referred to tasks in which the student used special media such as films, tape recorders, played games, used clocks, telephones, and/or role played or acted.
7. Other Tasks referred to tasks in which the student used kits or played games.
8. Can't Tell referred to tasks in which the observer could not identify the task in which the student was involved.

Student response. Student response referred to those responses or behaviors made by the student to the academic task or instruction. It included both appropriate (academic and task management responses) and inappropriate responses. They were defined as

1. Academic Responses, which were student behaviors or responses to tasks, such as writing, reading aloud, reading silently, discussing or talking about academic materials or the assignment, and asking or answering academic questions. All written responses to practice reading tasks were examined and the performance level determined by the formula:

   $$\frac{\text{number of items correct}}{\text{number of items in task}}$$

   Performance level referred to the percentage of the correct responses made by the student.

3. Task Management Responses were defined as those responses or behaviors which enabled the student to engage in the academic task. They included such behaviors as looking at the teacher for instruction, looking at the blackboard for directions, having hand raised, looking for materials, moving to a new academic station.

4. Inappropriate Responses referred to disruptive, loud, aggressive noises or behaviors, inappropriate play, non-academic talk, or looking around responses made by the student.

Allocated time. Allocated time referred to the time scheduled or designated for instruction in the school day.

Engaged time. Also called time-on-task, engaged time referred to the portion of time in which the student was actively working, questioning, or responding to a task. An operational definition would include the student

1. attending to instruction from the teacher or designated adult figure. A student was considered to be attending when he was looking at the teacher while instruction was occurring or looking from the teacher to his desk while taking notes.
2. actively working (eyes on academic material, handwriting, reading).
3. asking questions of the teacher, designated adult figure, or peer regarding the academic task or assignment.

Summary

While handicapped children have been provided education for the past two centuries, it is only within the past 50 years that special education has undergone great changes in the quality and the variety of instruction offered. In the past handicapped children were often isolated from their peers with an education curricula considered to be minimally important. Services were provided by teachers trained at the institutions which housed the children. Today through federal, state and local legislation a free appropriate education for all handicapped children regardless of type or severity of handicap is guaranteed.

Providing an appropriate education for the handicapped child by meeting his or her unique educational needs is mandated by law. The removal of a child from the regular classroom for placement in a special education classroom can be done only if the education provided in special education is more appropriate than that already available in the regular class.

The early services provided the handicapped were different from the education provided children attending regular education classrooms. The educational needs of those first served were different than their peers in the regular classrooms. Currently many children in special education classrooms appear similar to the non-handicapped children in the regular classroom. Regardless of the degree of severity or the type of handicap, the goal of special education remained the same.

In the special education classroom specially trained teachers, special materials and techniques were available. Children unable to achieve in the regular class could be provided with a more appropriate education in a special education class. Not only was the education to be more appropriate, but it had to be different from that already available. If it was the same as that found in the regular classroom, placement of a child in a special class was unjustified.

The purpose of this study was to investigate the education provided the handicapped student in two settings. Specifically, this investigation was focused on instruction provided learning disabled children in the resource room and the regular classroom during time allocated for reading.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to present an analysis of the literature relevant to this investigation. It is divided into four sections: (a) selection of the literature, (b) summary of the development of special education and learning disabilities, (c) use of time as a measure of quantitative and qualitative aspects of education, and (d) instruction provided the learning disabled in the classroom.

Selection of the Relevant Literature

The examination of literature began with the establishment of criteria for inclusion in the review of the literature. All types of literature were considered when the areas of the development of special education and instruction for the learning disabled were examined.

Because time was used as a measure of quantitative and qualitative aspects of classroom instruction, only data-based research was considered appropriate for inclusion in the review of the literature. When the area of instruction of the learning disabled was examined, only literature which met the following criteria was reviewed:

1. If data-based, the data presented were obtained through direct observation in the classroom.
2. It was published since 1975, the year federal policy regarding special education was set through the passage of Public Law 94-142.
3. Because of possible variance in definitions, only investigations conducted in the United States were included in the review.
4. The subjects of the study had to have met the federal criteria for learning disabilities (see Appendix E).

Reference sources were limited to those specific to the field of education, as well as Psychological Abstracts and Dissertation Abstracts International. Educational indexes reviewed were Educational Research Information Center (ERIC), Current Index of Journals in Education (CIJE), Education Index, and Exceptional Children Educational Resource (ECER). Only literature available through the University of Florida library system, the Ohio State University system, or the Bowling Green State University library system was considered for review. Reports from the Minnesota Institute on Learning Disabilities were obtained through direct contact with the Institute.

Once sources were identified, descriptors relevant to this study were determined. Descriptors used in the literature search were classroom climate, classroom environment, class activities, classroom technique, classroom design, classroom research, learning disabilities, resource room; special education, special schools, special classes, time use, and time allotment.

Finally, a computer search was completed for the researcher by the University of Florida through the ERIC system. The descriptor chosen for the search was "resource room." A list of 92 citations of information published since 1975 was generated. One met the criteria established for inclusion.

Meeting the Needs of the Handicapped

The basis for current education and care of the handicapped can be found in practices and theories which developed prior to this century. A brief review of past and present education is provided.

Educating the Handicapped

Although evidence of handicapped individuals has existed since the beginning of recorded history, interest in meeting their needs with basic care and education is relatively recent in Western society. The concern for humane treatment of the handicapped began approximately 300 years ago. Evidence of educational provisions can be found within the past 100 years (Haring, 1982). Prior to the mid-1800's, the handicapped were not considered to be worth teaching even if they were able to benefit (Reynolds & Birch, 1982). While basic care was considered appropriate, any education provided the handicapped was minimal.

During the 19th century new knowledge about educating the handicapped was provided by the research and writings of Itard and Seguin (with the mentally deficient), Howe (the blind), and Gallaudet (the deaf). Their research and work helped begin a movement for providing both education and basic care to the handicapped individual.

The first educational services began in residential schools which provided an education for children within the select categories served by the facility. Children had to be deaf, blind, or crippled to receive services (Hoffman, 1975; Sarason & Doris, 1979). The education provided was a reflection of the available knowledge and understanding of handicapped individuals' needs. Teacher training was on-the-job at the facility (Hoffman, 1975).

Although practioners were restricted by their limited knowledge of the handicapped, many sound education practices occurred. Educational strategies such as the use of direct instruction, multisensory approaches to instruction,

instruction based upon individual assessment, use of positive reinforcement, and emphasis on daily living and self-help skills for the severely handicapped are examples of practices still in use today (Ball, 1971; Balthazar & Stevens, 1982).

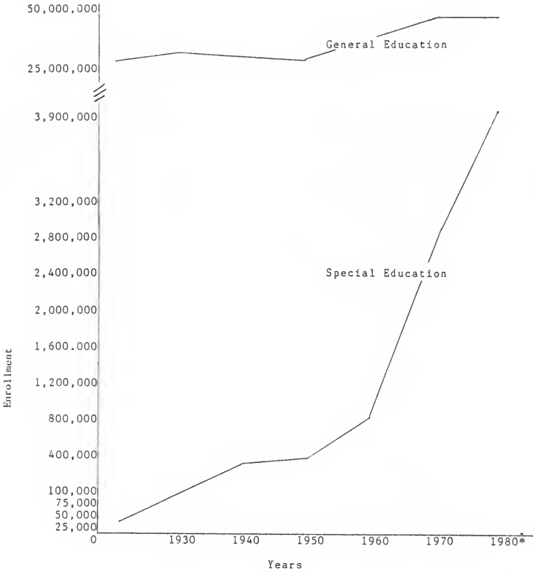
The area of special education expanded slowly from the mid-1800's to the early 1900's. Several events then occurred which had significant effect upon the field and contributed to its subsequent growth. The passage of compulsory attendance laws (1852 to 1918) resulted in large numbers of children with behavior problems or who were slow to learn remaining in school. As teachers and administrators attempted to meet their needs, "referrals" of the children to special classes were made (Hoffman, 1975; Reynolds & Birch, 1982; Ysseldyke & Algozzine, 1982). Because their problems were not considered severe enough to warrant placement in a residential facilities or centers, these "unmanageable" or "mentally deficient" children were sent to special classrooms or schools, for education.

Another factor which spurred the growth of special education was the large number of immigrant children entering the United States. Immigrants from widely divergent backgrounds arrived in great numbers and settled in towns and cities across the United States often becoming the majority population within a school. While these children were not necessarily incorrigible or mentally deficient, they sometimes had difficulty learning or were unable to learn in the regular classroom. They were often sent to a special class because of their special needs for instruction (Hoffman, 1975).

A third factor which contributed to increased numbers of children "referred" for special classes or schools was the development of standardized intelligence tests and their subsequent use with children. Performance on tests such as the Stanford Binet Intelligence test began to define who was "normal" and who was not (Gearheart, 1980).

As more and more students were taken out of the regular classroom and placed in special classes and/or schools special education experienced significant growth. While enrollment in general education increased 14% from 1922 to 1947, enrollment in special education increased [illegible]. During the next 25 years general education increased by 82% and special education increased 716% (Dunn, 1973). An illustration of this extraordinary increase in enrollment is presented in Figure 1.

After World War II the extension of existing categories and recognition of new categories resulted in additional growth in the field. As seriously injured World War II and Korean War veterans returned home, provisions to meet their



Sources: Dunn, L.M. An overview. In L.M. Dunn (Ed.) Exceptional children in the schools. New York: Holt, Rinehart, and Winston, Inc. 1973.

*Statistics of public elementary and secondary day schools. Washington, D.C.: National Center for Educational Statistics, Fall 1979.

Figure 1

Elementary and Secondary Public Day School Enrollment from 1922-1980 needs with appropriate services and education increased knowledge about handicaps as well. This additional knowledge, such as mobility training for the blind, was then transferred from rehabilitation work with disabled adults to the education of disabled children (Reynolds & Birch, 1982; Kirk & Gallagher, 1983).

Special education programs have expanded far beyond the early facilities for the handicapped. With the passage of the Education for All Handicapped Children Act (PL 94-142) in 1975, handicapped children, regardless of type or severity of handicap have a legal right to an education appropriate to their educational needs (Federal Register, 1977).

Education for the Learning Disabled

One recently identified category within special education is the learning disabled (LD). The origins of learning disabilities can be traced to work with brain injured adults and mentally retarded children during the 1930's (Sabatino, 1981). The learning disabled child was one who was failing in school but did not "fit" the existing categories of handicaps. They were children who exhibited a wide range of behavior and/or academic problems, but their primary area of difficulty was in academics such as reading, spelling, or arithmetic (Keogh, 1983; Reid & Hresko, 1981). If a child did not exhibit problems in some area of academic learning, the learning disabilities label was, and is, inappropriate.

The first education programs provided the learning disabled child were patterned after techniques found to be successful with brain injured individuals. Learning disabled children were taught in stimulus-free environments and provided with very structured teacher-directed instruction (Cruickshank, Bentzen, Ratzeburg, & Tannhauser, 1961).

Within the next 50 years several theories, models, and approaches to instructing the learning disabled were developed. Two basic approaches to instruction can be identified. One is related to the causes or etiology of learning disability. Instruction is provided in such process areas as perceptual-motor skills, multisensory techniques, language development, phonics, and memory skills (Gearheart, 1980; Kirk, 1971; Lerner, 1981; Meyers & Hammill, 1976). A second approach is related to the identification of a student's specific academic problems, with specific instruction in the deficit area, such as direct instruction in mathematics, spelling and reading (Lerner, 1981; Hammill & Bartel, 1978). Emphasis was placed upon instruction in the specific academic skills rather than "processes" which were assumed to underlie skill development (Ysseldyke & Salvia, 1974).

During the early 1960's and 1970's instruction in the processes of learning or ability training was considered appropriate for learning disabled children (Mercer, 1983). Research has not provided empirical support for this instructional approach as a means of improving academic performance (Ysseldyke, 1973; 1974). However, there has been support for teaching academic skills without process or ability remediation (Ysseldyke & Salvia, 1974).

As with the field of special education, there has been a dramatic increase in the number of children identified and served as learning disabled. Learning disabilities programs began to appear in schools during the late 1960's with 120,000 school aged children labelled as LD in 1968 (U.S. Office of Education, 1970). During the 1980-1981 school year 1,455,135 school aged children received services as learning disabled (Haley, Ackerman, Chappell, Perrin, & Stormer, 1981). Learning disabilities has become one of the largest categories of handicapped children served in schools, comprising over one-fourth of all handicapped children served (U. S. Office of Education, 1979).

Examining Instruction in the Classroom

Researchers as well as practitioners have been concerned with the behaviors which occur within the classroom. Although the early research has been criticized as being of little use to the classroom teacher (Soar, 1973), recent investigations using direct observation systems have provided meaningful information regarding what is happening in the classroom. Several researchers have identified the significance of this information. As they suggest, it is essential to understand what is taking place within the classroom before the effects of special teaching methods, materials, or instructional practices can be determined (Copeland, 1980; Hinely & Ponder, 1980).

One means of measuring and describing classroom activities is through the examination of time use in schools or classrooms (Graden, Thurlow, & Ysseldyke, 1982). Improvements in data collection techniques and greater consistency in definitions have resulted in a useful descriptions of classroom behaviors and events. Both quantitative as well as qualitative information have been obtained.

Unlike some variables within the classroom, time use is a resource which can be directly manipulated by the teacher (Karweit & Slavin, 1981; Wang, 1979). Time is an "alterable variable," a variable related to learning that is available to all students, handicapped or not (Daniels & Haller, 1981). By altering the pacing of instruction or the amount of time allocated for learning, a teacher can control the learning which occurs to some degree. As stated by Block (1980): "Time is a scarce resource in schools; the organization of time may well be the most important variable to be affected by policy" (p. 2). Teachers and administrators, as managers of time in the classroom, can have a direct impact upon student learning or achievement.

Quantitative Aspects of Instruction

In order to learn, every child must have an adequate opportunity to learn in the classroom. Both researchers and practitioners have viewed the allocation and effective use of school time as a determiner of learning in school. The relationship between time and achievement has been explored in several studies using a variety of measures of time (Berliner & Rosenshine, 1977; Bloom, 1968; Carroll, 1963; Marliave, Fisher, & Dishaw, 1977; Stallings, 1976; Wang & Yeager, 1971; Wiley & Harnishfeger, 1974). The study of time has been based on the premise that the more time allocated for learning the more learning will take place (Borg, 1979; Fisher, Berliner, Filby, Marliave, Cohen, & Dishaw, 1980; Smith, 1979). More time in school would allow for more time in instruction and more time for the student to master the task.

Time in School. Early studies of time were concerned primarily with the global issue of whether the total amount schooling a student receives makes a difference. These early studies focused on general measures of time, such as years in school (Hyman, Wright, & Reed, 1975), days in the school year (Mann 1928), or length of the school day (Karweit, 1976). The usual method of data collection was teacher report and achievement was measured through standardized tests. Although correlations between time use and student achievement were not consistently positive, researchers did identify great variances in amount of time between classrooms, schools, districts, and states. A summary of these early studies is presented in Table 1.

Opportunity to learn. From the examination of global issues, such as length of the school year, researchers focused upon a students' opportunities to learn during school. Opportunity to learn was often reported as hours of instruction in a school day. The major form of data collection was teacher self-report. Measures of student learning were obtained through achievement test scores. Significant postive relationships were reported between the opportunity a student had to learn and the student's performance on achievement tests (Borg, 1979; Cooley & Leinhardt, 1980). One criticism of these studies has been the use of self-report methodology for data collection

Table 1

Summary of Studies Investigating Time in School

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Hyman, Wright & Reed (1975)	3,519 individuals, white males and females	performance on 250 test items	amount of formal schooling subjects had completed (elementary, high school, or college)	those with more schooling had performed better on those selected items	post-hoc study Weakness: test performances were from 1949 to 1971
Karweit (1976)	Analysis I:				
	70 6th grade classrooms in Detroit metropolitan area	mean class achievement on Iowa Test of Basic Skills	student's average daily attendance hours of school per day days of school per year	time in school positively correlated with achievement	post hoc study Reanalysis of data from EEOR (1966)

Table 1 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Karweit (1976) continued	Analysis II:				
	all 3rd, 5th, 7th, 9th grade classrooms in Maryland in 73-74, 74-75	mean class achievement on Iowa Test of Basic Skills	same as above	time in school not consistently correlated with achievement	Reanalysis of data from Maryland schools
	Analysis III:				
	21,345 high school students	mean achievement on Project Talent Math Achievement and Reasoning Tests	same as above	time in school positively correlated with achievement	Reanalysis of McNill 20 High School Data, 1964-1965 Strengths: large data samples and comprehensive information provided practical implications given Weaknesses: limited to attendance reports

Table 1 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Mann (1928)	444 school districts in U.S.	grade levels of students	minutes/week for subject areas identified, time in school day	Grade 1 to 6: Phonics 1.6% day Reading 17% Literature 1.7% Language/Grammar 9.1%	Strengths: thorough development of sample Weaknesses: less than 50% return rate on questionnaire
Stallings (1976)	8 classes, 4 1st, 4 3rd grades	achievement on Metropolitan Achievement Test and observational data	length of school day, engaged rate in reading, math	length of school day and engaged rate strongly correlated with achievement length of day varied as much as two hours	Strengths: sample representative of U.S. Weaknesses: limited info was given regarding observation instrumt

(Borg, 1979). Only two data-based studies were identified which met review criteria. A summary is presented in Table 2.

Allocated time. Opportunity to learn provided very general information regarding time use in schools. A more specific measure of time use was allocated time. It provided a measure of the amount of time the student was exposed to learning through an examination of the amount of time scheduled or allocated for instruction. The portion of the school day during which instruction did not occur was excluded.

Mixed results regarding the relationship between allocated time and achievement were reported. The variation found in earlier comparisons between different classes, grade levels, schools and districts continued to be identified (Berliner, 1976; Felsenthal & Kirsch, 1978; Fisher et al., 1980; Guthrie, Martuza, & Seifert, 1976; Jacobsen, 1980; Karweit & Slavin, 1981; Mann, 1928; Rosenshine, 1980; Smith, 1979). A summary of these studies is presented in Table 3. The strongest correlations resulted with the use of content-relevant achievement measures (Berliner, 1976; Karweit & Slavin, 1981). Differences among studies in achievement measures, unit of analysis (class or individual student) and definitions of terms have resulted in inconsistent findings (Graden, Thurlow, & Ysseldyke, 1982). A need for more

Table 2

Summary of Studies Investigating Opportunity to Learn

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Borg (1979)	Study I:				
	40 teachers in 4th, 5th, 6th grades in suburban school district	student achievement on researcher developed 40 item multiple choice test	teacher self-reported coverage of instructional unit	achievement significantly correlated with teacher coverage	Strengths: researcher statistically controlled for SES and student ability
		student comprehension as measured on 6 item essay test		student comprehension not correlated with teacher coverage of unit	achievement measures tied to unit content
	Study II:				developed unique lesson to control for prior knowledge of students
	28 teachers from same schools/district				Weaknesses: reliance on teacher self-report limited information regarding subjects

Table 2 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Cooley & Leinhardt (1980)	400 1st and 3rd grade classrooms in 100 schools in 5 states	mean class performance on criterion reading and math, also CTBS scores	observational data regarding opportunity to learn	opportunity to learn predicted post test scores in both reading and math	Strengths: good sample information clearly presented Weakness: limited information about observation instrument

Table 3

Summary of Studies Examining Allocated Time

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Fisher, Berliner, Filby, Cohen, & Dishaw (1980)	25 2nd grade teachers 21 5th grade teachers	student achievement on BTES developed test battery	teacher self-reports on time allocated, engagements of students/teacher, success rate of students	factors which positively correlated with achievement were: time allocated for instruction proportion of allocated time students were engaged proportion of time students were in high success rate activities	Strengths: investigation was thorough in sampling, procedures, analysis used teacher self-report and observational data year-long study Weaknesses: possible sample bias since teachers volunteered

Table 3 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Fisher, et al., (1980) continued					content validity of tests not established only children within 30-60th percentile were included in the study
Guthrie, Martuza, & Seifert (1976)	8085 2nd & 6th graders from 264 schools representative of U.S.	gain scores on Metropolitan Achievement Test	teacher self-report on time allocated for instruction	great variance among classrooms range of 8 mins. to 600+ mins/wk allocated for reading achievement of low ability students affected by amount of time allocated more than high ability in reading	Strengths: sample representative of U.S. presented adequate information on achievement measures Weaknesses: limited information about independent variable

Table 3 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Jacobsen (1980)	200 3rd grade students in 3 elementary schools in Wisconsin	achievement gains on Standford Achievement Test	time allocated for instruction in reading and math	significant difference in time allocated per week were: Reading: 310-375 minutes Math: 215-320 minutes Time allocated for reading not correlated with achievement; time allocated for math significantly related with achievement	Strengths: information about sample thorough presentation of procedures Weaknesses: used spring test scores as pre-test & next year's spring scores as post
Karweit & Slavin (1981)	108 students 2nd through 5th grades from 4 schools in rural Maryland	achievement on select subtests of CTBS & end of chapter tests in math text	amount time allocated for math instruction, amount time were engaged in activities, different math content	Grades 2 & 3: total time allocated predicted achievement	Strength: used chapter tests and CTBS

Table 3 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Karweit & Slavin (1981) continued				Grades 4 & 5: total time allocated predicted performance on chapter tests but not CTBS	Weaknesses: limited information on procedures no information provided for sample
Smith (1979)	68 5th grade teachers in rural Maryland with mean classroom IQ greater than 95	achievement scores on STEP Achievement Test, Social Studies subtest	teacher self-reported amount of time allocated daily for social instruction	mean 28.5 min/ day allocated for social studies when IQ was controlled, allocated time was non-significant in predicting achievement	Strengths: statistically controlled for for IQ of students examined achievement measure for content validity Weaknesses: use of teacher self-report no demographic information about sample

specific and accurate means of data collection procedures was also suggested (Frederick & Walberg, 1980).

Engaged rates. Researchers identified considerable differences between the amount of time scheduled for instruction (allocated time) and the amount of time a student was engaged in instruction (Felsenthal & Kirsch, 1978; Graden, Thurlow, & Ysseldyke, 1982; Fisher et al., 1980; Jacobsen, 1980; Karweit & Slavin, 1981; Rosenshine, 1980). The percentage of time the student spent engaged in instruction varied from 56% to 99% of the time that was allocated for instruction (Felsenthal & Kirsch; Jacobsen, 1980).

These differences in allocated time and the actual time students were involved in a task focused researchers on the study of a student's engaged rate, or the amount of time spent on-task. Data were collected primarily through direct observation in the classroom rather than teacher report. Student performance on achievement tests still served as the measure of learning. Overall, the study of engaged time has yielded significant positive correlations with student achievement (Anderson, 1975; Cobb, 1972; Fisher et al., 1980; Gaver & Richards, 1979; Good & Beckerman, 1978; Jacobsen, 1980; Karweit & Slavin, 1981; McKinney, Mason, Perker-son, & Clifford, 1975; Rosenshine, 1980; Samuels & Turnure, 1974). Time spent engaged in academic activities was found to be positively related to achievement regardless of differences in design, different populations and/or the size of the group studies. Time spent engaged in non-academic activities, such as art and physical education was negatively correlated with achievement (Borg, 1979).

The type of task, ability level of the student, subject matter of the task, and the instructional arrangement the student was in when instruction was presented did affect students' engaged rates (Borg, 1979). As with earlier studies, variations in engaged rate was found between students, classes, and schools (Felsenthal & Kirsch, 1978; Fisher et al., 1980; Jacobsen, 1980). A summary of the engaged rate studies is presented in Table 4.

The examination of student engaged rate provided more accurate information than earlier measures of quantity of time use. However, it still did not provide a measure of the quality of time spent. The engaged rate could be the same whether the student spent the time correctly performing the task or incorrectly performing the task. In addition, engaged rate did not discriminate between different learning/teaching strategies. For example, the engaged rate during individually paced versus class-paced instruction could be identical, although achievement results of the learners could be quite different. A measure of the quality of learning was needed.

Table 4

Summary of Studies Examining Engaged Time

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Anderson (1975)	27 7th grade and 28 9th grade students from midwest metropolitan schools	student performance on unit tests	time-on-task	significant positive correlation between achievement and time-on-task	Strength: students randomly selected Weaknesses: no demographic information about sample presentation of results was difficult to understand
Cobb (1972)	103 4th grade students from 2 schools selected as representative of school district on IQ and test scores	achievement on Stanford Achievement Test	engaged rate on 14 behaviors	engaged time positively predicted achievement	Strength: looked at IQ & ability of students Weaknesses: content validity of SAT with what was taught not established

Table 4 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Gaver & Richards (1979)	45 2nd graders from suburban Virginia	teacher assigned grades for 5 years and Science Research Associates Assessment Survey administered in 6th and 7th grade	engaged rate as measured by Sears system of observation	IQ, SES, SRA scores significantly positively related with engaged rate when SES was controlled, IQ, SRA, GPA positively correlated with engaged rate when IQ & SES controlled, SRA positively correlated with engaged rate when IQ controlled, SRA positively corlated with engaged rate	Strengths: observer training in data collection procedures examined SES and IQ Weaknesses: no information regarding IQ was given 1/4 sample lost due to attrition
Good & Beckerman (1978)	2 schools	type of activity, instructional arrangement, achievement	engaged rate of students	students engaged in individual activities most often	Descriptive data provided Strength:

Table 4 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Good & Beckerman (1978) continued		level of students		high achievers engaged 75% instructional time low achievers engaged 67% of instructional time	observers trained Weaknesses: significance of results not determined limited information about sample, procedures
Felsenthel & Kirsch (1978)	13 classes in 4 schools 5 4th grades, 4 5th grades, and 4 6th grades	achievement on Iowa Test of Basic Skills	student engaged rate in reading	great variability among classrooms in engaged rate (57% to 79% of time)	Strength: two observers in each classroom Weaknesses: demographic information not provided for sample only included students whose reading scores were 4.0-8.9 (grade level) on achievement test

Table 4 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Fisher, Berliner, Filby, Cahen, & Dishaw (1980)	25 2nd grade teachers 21 5th grade teachers	student achievement on BTES developed test battery	teacher self-reports on time allocated, engagements of students/teacher, success rate of students	factors which positively correlated with achievement: time allocated for instruction proportion of allocated time students were engaged proportion of time students were in high success rate activities	Strengths: investigation was thorough in sampling, procedures, analysis used teacher self-report and observational data year-long study Weaknesses: possible sample bias since teachers volunteered content validity of tests not established only children within 30-60th percentile were included in the study

Table 4 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Jacobsen (1980)	200 3rd grade students in 3 elementary schools in Wisconsin	achievement gains on Stanford Achievement	time allocated for instruction in reading and math time on task	allocated time results on Table 3 Time on task: varied by ability of student, teacher and school high ability students had high engaged rate, low ability had low ability rate	Strengths: info about sample thorough presentation of procedures Weaknesses: used spring test scores as pre-test & next year's spring scores as post test scores
Karweit & Slavin (1981)	108 students in 2nd through 5th grades from 4 schools in Maryland	achievement on select subtests of CTBS & end of chapter tests in math text	amount time allocated for math instruction, amount of time were engaged in activities, different math content	Grades 2 & 3: engaged rate positively predicted achievement Grades 4 & 5: engaged rate positively predicted achievement on chapter tests but not CTBS	Strength: used chapter tests and CTBS Weaknesses: limited information on procedures no demographic information on sample

Table 4 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
McKinney, Mason, Perkerson & Clifford (1975)	90 2nd grade students	California Achievement Test	engaged rate during language arts	low engaged rate negative predictor of achievement engaged rate consistent over school year	Strengths: demographic information provided for sample inter-observer agreement obtained Weaknesses: content validity of test not examined definitions not provided for terms such as distractability
Rosenshine (1980)	139 2nd & 122 5th graders in 25th-65th percentile	grade level of students	engaged rate in activities, tasks	2nd Grade: 57% instructional time spent in academic activities, 24% in non-academic, 24% in	Strength: Very thorough

Table 4 Continued

Authors/ Year	Subjects	Dependent Variable	Independent Variable	Results	Comments
Rosenshine (1980) continued				5th Grade: 60% instructional time spent in academics, 23% time in non-academics, 17% in non-instructional activities of academic time, 38-39% in reading 16% spent in math students engaged in teacher directd activity 84% time during seatwork engaged rate 70%	
Samuels & Turnure (1974)	88 1st graders	reading achievement as measured by student recognition of 45 Dolch words	engaged rate during reading	higher engaged rate positively correlated with higher word recognition score	Strength: reading measure appropriate for age of sample Weaknesses: limited information about observation procedures, sample

Qualitative Aspects of Learning

Both Carroll (1963) and Bloom (1968) addressed qualitative and quantitative issues of instruction in their theories of learning. Quantity is usually described as the amount of time needed to learn a task. The quality of instruction has been defined as a measure of the degree to which instruction is presented so that it will not require additional time for mastery.

As measures of instruction, allocated time and engaged rate provided an index of the quantity of time students engaged in learning. A measure of quality of time which has received limited investigation is success rate (Fisher et al., 1980).

The Beginning Teacher Evaluation Study (BTES) conducted in California in 1972 included success rate as a quality variable in their investigation of student achievement. High success rate was found to be a positive predictor of achievement while low success rates consistently negatively correlated with achievement (Berliner, 1980). Success rate, similar to classroom environment and time use is an "alterable" variable under the control of the classroom teacher. For some students the concept of success rate may be especially important for it provides the classroom teacher with a means of examining and altering time use to meet specific student needs/ability (Berliner, 1980). Success rate allows the appropriateness of classroom activities, teaching strategies and materials to be examined by the teacher. As stated by Block (1980): "If educators want better learning and better learner feelings, then they ought to offer students more learning success and fewer learning errors" (p. 97).

Examining Instruction in the LD Classroom

Use of time and appropriateness of the task are important factors to consider when designing instruction for non-handicapped children. When children with learning problems are considered, allowing enough time for learning to occur through the manipulation of time and task appropriateness becomes essential. The investigation of time use in the classroom and the students' success rates on tasks could provide additional information regarding the appropriateness of student placements. Both qualitative and quantitative aspects of learning in the different classrooms or programs would be addressed.

Over 90 studies published since 1975 were identified which addressed some aspect of the learning disabilities resource room. Time use in an LD classroom was examined in one investigation; success rate of LD students was not addressed in any of the studies. This investigation was very similar to the one study which examined time use in the LD classroom in purpose, procedures, and subjects selected. The author felt a more thorough presentation of this investigation would be appropriate. Differences between the studies are also presented.

The investigation was first presented in a research report from the University of Minnesota Institute for Research on Learning Disabilities and then in the Learning Disabilities Quarterly (Thurlow, Ysseldyke, & Graden, 1982; Thurlow, Ysseldyke, Graden & Algozzine, 1983). The purpose of the investigation was to compare the learning disabled students' educational experiences in the regular and resource rooms with non-learning disabled students' educational experiences in the regular classroom. Descriptive and comparative data regarding teacher location and teacher activity, instructional activities, and student responses to instructional activities, and measures of engaged time were obtained. Task appropriateness was not examined.

Six children from third grade and two from fourth grade were randomly selected from learning disabled students enrolled in eight elementary schools in a suburban school district. Using the CISSAR (Code for Instructional Structure and Student Academic Response) observation system, each student was observed for two school days. Trained observers recorded student activity, task, teaching structure, teacher location, teacher activity, and student responses at ten-second intervals. Students were observed for an average of seven hours and twenty minutes. About 43% (190 of 440 minutes) of the observational time was spent in the resource room.

When the amount of time allocated for instruction and the amount of engaged time was examined, these differences between settings were identified:

1. LD students spent more time in small group instruction and received more teacher approval when in the resource room. LD students were engaged in academic responses (such as reading aloud, reading silently, and writing) for significantly more time in the resource room.
2. LD students spent significantly more time in large group activities and in "other talk" when in the regular classroom. They also spent significantly more time engaged in task management responses (such as hand raising) when they were in the regular classroom.
3. Of time designated for reading or math, significantly more time was allocated for individualized instruction with the teacher located beside the student in the resource room than in the regular classroom. The LD students also received

significantly more teacher approval in the resource room.

4. When in the regular classroom, the learning disabled and non-disabled students had similar tasks and similar amounts of time allocated for activities. Teacher location, teacher activities, and student responses were also similar. Teachers in the regular classroom appeared to treat the learning disabled and non-disabled learners in a similar manner.

5. When student responses were examined, learning disabled and non-disabled students engaged in active reading responses about 28% of observed reading time. LD students engaged in reading practice activities (such as reading aloud or silently) only 9% of reading time; non-disabled learners spent approximately 11% of reading time in reading practice. It was noted that the variability among both the learning disabled and non-disabled students was great. For example, one non-disabled student spent 20 minutes a day in reading practice while another spent 20 seconds per day in reading practice. Similar variation existed for the LD students as well.

The authors of the study concluded that the special class resource room did offer certain opportunities for special education. However, the education actually provided was very similar in both settings in terms of student tasks and student behaviors (Thurlow, Ysseldyke, & Graden, 1982; Thurlow, Ysseldyke, Graden, & Algozzine, 1983).

While limited by sample size (n = 8) and location of the investigation (suburban Minneapolis), the Thurlow, Ysseldyke, and Graden study explored what learning disabled children did when in the regular and special education classrooms during the school day. Focusing on children placed in resource room programs rather than self-contained classrooms, the authors suggested the education provided in the resource rooms examined was very similar to that provided in the regular classroom. Eight different resource rooms were examined.

The component of success rate, although not addressed in the investigation, would have yielded additional information regarding the quality of student time use. The use of engaged time without a measure of appropriateness of the task has received some criticism in the literature (Borg, 1979). While engaged time does provide a measure of the amount of time the student is on-task, without knowledge of the student's performance level the determination of whether learning is taking place cannot be made.

Summary

During the past century researchers and professionals have begun to examine time use in schools to better understand what occurs within the classroom. Based on the assumption that the degree of learning is related in part to the amount of time spent learning, early researchers were concerned with global issues of time use. As the concept of time use was refined, researchers began to investigate student variables, such as engaged rate. Improvements in methodology and the use of direct observation rather than teacher self-report provided researchers with more accurate descriptions of classroom activities. From the early studies to current investigations, time use has generally been positively correlated with student achievement. The wide variation among individual students, different classes, schools or city systems in the amount of time actually spent in learning has also been identified since the first studies.

While the bulk of time use research has concentrated upon quantity factors such as how much time is spent or allocated for instruction, there has been recent interest in the measure of the quality of learning which is assumed to be occurring. One measure of this is student success rate. Related to the appropriateness of the academic task, success rate examines what students are actually doing during engaged time.

Researchers of the BTES study examined time use and success rate in elementary classrooms. Their findings support the importance of these two factors for the child having difficulty learning in school. One population of children for whom time use and task appropriateness is important is the group of children labelled learning disabled. Possessing a handicap which makes academic learning difficult, learning disabled children must receive an education which meets their needs. Since they usually attend both regular and special education classrooms, determination of the appropriate classroom for instruction is important.

Thurlow, Ysseldyke, and Graden (1982) examined the education provided in the LD classroom through the use of student engaged rate. Significant variations in time use among students was reported which was consistent with earlier time use studies. Few comparisons of engaged time between settings were found to be significant in the students' engaged rate in different activities, tasks, and responses.

Although quantitative factors of classroom activities for LD students were addressed, the quality of the students' time use was not. Measures of task appropriateness such as success rate were not examined.

CHAPTER III

METHOD

This investigation focused on exploring the education elementary school learning disabled children received during time allocated for reading in two settings: the learning disabilities resource room and the regular education classroom. The method of subject selection, the observation system used, observer training, as well as data collection and data analysis procedures are presented in this chapter.

Prior to subject selection, the purpose, procedures, forms, proposed investigation site and sample were submitted to the University of Florida Institutional Review Board for review. Permission to conduct the study was also obtained from the North Dakota school district learning disabilities supervisor.

Subjects

Subjects selected were seven upper elementary learning disabled children attending a public elementary school in a large city school system in North Dakota. The procedures for student selection were as follows:

1. A list of elementary LD teachers in the Bismarck school district was obtained from the school district's learning disabilities supervisor.
2. Each of the 13 LD resource room teachers was sent the General Data Questionnaire (Appendix C) with a cover letter requesting cooperation in the investigation. Developed by the researcher, the General Data Questionnaire requested demographic information regarding teacher certification, years of experience, and the amount of time the teacher allocated daily for reading. All questionnaires were returned within three weeks.
3. A list was made of teachers whose responses on the questionnaire indicated the teacher
    a. was teaching full-time at one school in a learning disabilities resource room,
    b. possessed a valid teaching certificate in learning disabilities, and
    c. taught third, fourth, fifth, and sixth grade students.

    All learning disabilities teachers met criteria for inclusion.

4. The teacher names were placed in a box and one name randomly selected.
5. Permission to use the school as the site for the investigation was obtained from the principal by phone. Upon his suggestion, permission to use the LD classroom for observation was then obtained by phone from the LD teacher. Two days later arrangements were made by phone for an after school visit.
6. The purpose of the visit was to meet school staff and select the subjects. Procedures followed in subject selection were as follows:
    a. a list of the learning disabled students enrolled in the resource room program was obtained from the LD teacher.
    b. a list of third through sixth grade students who attended a regular class for reading and had a reading deficit (defined by North Dakota criteria, see Appendix A) at the time of their most current Individualized Educational Plan (IEP) conference was made. Information regarding grade level and reading deficits was obtained from student cumulative records and IEP's kept by the LD teacher.

c. Student names were grouped by grade level. Two names were randomly drawn from each grade for a total of six names. Only one sixth grade student received reading instruction in the regular classroom. He was included in the study.

Because of the exploratory nature of this investigation, the number of subjects was limited. The intent of this investigation was to make a thorough and in-depth descriptive study of classroom instruction. Observations were made in one school rather than several settings.

7. The researcher obtained the names of homeroom teachers for the LD students from the learning disabilities teacher. A visit was made to each homeroom teacher to identify students' regular education reading teachers and the time students were scheduled to receive reading instruction.
8. Then the LD students' regular education reading teachers were asked to respond to the General Data Questionnaire. They were also asked what time reading was scheduled to begin and end in their classroom. This was

compared with the schedules provided by the homeroom teachers.

A total of seven children were selected. Each student had been diagnosed as having a reading deficit at the time of the most current IEP conference and received reading instruction in both the regular and learning disabilities resource classrooms. All students had the same LD teacher but were in four different regular education classrooms for reading instruction.

The Observation System

The observation forms, procedures, and codes were adapted from the CISSAR (Code for Instructional Structure and Student Academic Response) used in the Thurlow, Ysseldyke and Graden study (1982). The CISSAR system breaks the behavior of students into six areas: (a) activities, (b) tasks, (c) teaching structure, (d) teacher position, (f) teacher activity, and (g) student response. The Data Collection Form (see Appendix D) developed for this investigation was limited to student activities, tasks and responses. Within each area, observers coded six different activities (reading practice, other reading, free time, transition, can't tell, and other activities), nine different tasks (readers, workbooks, worksheet, paper/pencil task, student-teacher interaction, listening, other media, can't tell, and other tasks), and eight student responses (writing, reading aloud, reading silently, asking/answering questions, discussion, task management response, inappropriate response, and other responses). Definitions of terms used in the codes were presented in the Definitions section of Chapter I.

In addition to codes for the events which occurred within the classroom, observers made anecdotal notes regarding what they saw occurring in the classroom. Some areas they addressed were materials used by students, teacher-student interactions, student-student interactions, feedback provided by teachers, classroom organization, teacher location, and types of activities which occurred during "other" activities and tasks. Observers also noted when students began and ended each activity on the General Data form. An interval time sampling technique was used to record events in 15 second intervals during the time allocated for reading in both settings. Observers used a stop watch to determine the time intervals for recording and the classroom clock to determine when the time allocated for reading began and ended.

Observer Training

Procedures for observer training and data collection were similar to those used by Thurlow, Ysseldyke and Graden in their investigation of time use of learning disabled students in Minnesota (1982). Two observers were used for this investigation. One was the author of the study and the other a graduate student in the Learning Disabilities program at Minot State College, Minot, North Dakota. The graduate student volunteered to participate in the study and received no payment for her time or services. Observers were trained and inter-observer agreement was established prior to data collection. Inter-observer agreement ranged from .83 to .97 with a mean of .92. Training procedures were as follows:

1. Observers were provided with the data collection forms and definitions of terms a week before the training sessions were scheduled.
2. Prior to training sessions, videotapes of elementary school reading classes were made by a graduate student assistant from the media center at Minot State College. Videotapes included elementary students in both regular and resource room classes. Each videotape centered on a particular student at a distance similar to the anticipated distance between observer and student

in the classrooms where data collection would occur. Students videotaped were from third and fourth grade classrooms in the Minot, North Dakota schools. Five classrooms and ten different students were videotaped for training procedures.

3. During the training sessions observers were presented with data forms and definitions of terms. The coding symbols were reviewed and time sampling procedures were discussed.
4. Observers then viewed 15 minutes segments of the training videotapes and coded their observations on data forms following the time sampling and coding procedures discussed.
5. After each 15 minute observation period, inter-observer agreement was calculated using the following formula (Sulzer-Azoroff & Mayer, 1977):

$$\frac{\text{agreements}}{\text{agreements} + \text{disagreements}}$$

6. Training sessions were repeated using videotapes of different students and different settings until inter-observer agreement was equal to or exceeded .80 for three consecutive observation periods.

Data Collection Procedures

Data collection procedures were also similar to those used by Thurlow, Ysseldyke, and Graden study (1982). Rather than obtain information regarding time use for the entire school day, only time allocated or scheduled for reading was examined. Because reading activities within a classroom may vary due to the day of the week (spelling tests, for example, are usually given on Fridays), students were observed for five days rather than two. The component of success rate was added following procedures used in the BTES investigation (Block, 1980). Success rate was not addressed in the Thurlow, Ysseldyke, and Graden study. Data collection was done in three phases.

Phase I

The purpose of Phase I was to obtain descriptive data regarding the classrooms, the school, and the teachers through the use the General Data Questionnaire and anecdotal notes. A meeting with the principal during the school visit prior to the beginning of data collection yielded demographic information about the school (school enrollment, racial composition of the school, general socio-economic level of the school, general ability measures by grade level, school staffing, and information regarding the school plant). Information regarding teachers' certification areas, years of teaching experience, experience in special education, as well as the amount of time allocated for reading was obtained from teacher responses to the General Data Questionnaire. Responses were checked for accuracy by the observers prior to classroom observations. Observers asked teachers the questions which appeared on the General Data Questionnaire. Their verbal responses were compared with their responses on the questionnaire.

Phase II

Classroom observations were conducted during Phase II of data collection. Observers coded activities, tasks, and student responses on the Data Collection Form at 15 second intervals from the time reading was scheduled to begin until it was scheduled to end. The time students began and ended each task was noted and the name or title of the materials in which the students were engaged was recorded.

Each student was observed five times in each setting during the 19 days observers were in the school. Observation days and observer were randomly chosen. An observation schedule was developed by randomly selecting student names, observation dates, and observer. Dates and student names were determined by drawing from a box; a coin toss identified the observer. The same observer recorded data for one student in both settings. Two students were observed each day for 18 days and one student was observed the last day. Observers were in the school during April and May, 1984. No student was absent the day they were to be observed.

Agreement between observers on events observed was checked throughout the investigation. At least one agreement check was made each day. Each agreement check was for a 10 minute period of time. While one observer was collecting observation data in the classroom, the second observer would enter the room, record student behaviors using the coding system for activities, tasks, and responses and then leave. Inter-observer agreement between observers was calculated at the end of that class period. Inter-observer agreement was evaluated 28 times throughout the study. Agreement ranged from .68 to .98, with a mean of .92.

Phase III

Phase III was the investigation of task appropriateness through the examination of success rate. The student success rate was measured by percent items correct. In order that classroom procedures not be disrupted, success rate data were collected by the observer at the end of the school day. Classroom teachers collected the written work from all students in the class during the time allocated for reading each day. Observers examined the written work of the student they observed that day, recording the number of items the student attempted, the number of items correct, the percent correct and the amount of time the student was engaged in the activity on the Performance Information Form (Appendix E). The number of items correct was confirmed by the observer by re-checking student responses against the answer keys provided by the classroom teacher. The amount of time the student was engaged in the activity was obtained from the Observation Data Form.

Analysis of Data

What occurred during time allocated for reading instruction in the regular and resource room classes for elementary LD students was examined in this investigation. Student success rate, or performance level on reading tasks, was also investigated.

Variables

In this investigation, the independent variable was the setting in which the observation occurred, either the resource classroom or the regular classroom. The dependent variables were the total amount of time allocated for instruction, amount of time students were engaged in different reading activities (e.g. reading practice, transition), tasks (e.g. workbooks, readers) or responses (e.g.

writing, reading aloud). For descriptive purposes, these times were transformed to the mean number of minutes allocated for reading and mean number of minutes spent in the different activities, tasks, and responses in a school day. Percentage of time allocated for reading spent in reading activites as well as percentage of time spent in the different activities, tasks, and response was also determined. Success rate of the students' performances on practice reading activity requiring a written response was the last dependent variable examined.

Data Analysis

Time allocated for reading, time actually spent in reading activities, time students were engaged in the different tasks, activities, and responses and success rate data were analyzed separately. A consultant developed the program for data analysis using the Statistical Analysis System (1979). Comparisons of allocated time, time spent in reading, time spent in different tasks, activities, and responses, and student success rate between settings were performed using dependent *t*-test procedures. The level of significance was set at 0.05 to allow comparisons of the results of this investigation with other time use studies. Data were analyzed in three stages.

Stage 1: Time Allocated for Reading and Time Spent in Reading Activities. Teacher responses to the question on the General Data Questionnaire regarding time allocated for reading were used to obtain the mean number of minutes of time allocated for reading in each setting. Time spent in reading activities was obtained by determining mean amount of time students were observed engaged in reading activities (the amount of time spent in Reading Practice plus the amount of time spent in Other Reading activities provided from observational data on the Data Collection Form). Both total number of minutes and percentage of time allocated for reading were determined. Allocated time and time spent in reading activities were also compared.

Stage 2: Engaged Time. Both the total number of minutes students were observed to be engaged in activities, tasks, or responses and the percentage of time allocated for reading were obtained from the raw data on the Data Collection Form. A comparison of the percentage of allocated time spent in the different activities, tasks, and responses between settings was also performed.

Stage 3: Success Rate. The success rate of the target students' responses to practice reading activities requiring a written response was evaluated by comparing the mean percentage correct for the activities in both settings. Raw data were obtained from the observer records on the Performance Information Form. Student success rate was compared between settings.

CHAPTER IV

RESULTS

The purpose of this investigation was to examine the education provided learning disabled students in regular and resource classrooms during time allocated for reading. Both descriptive and comparative information was obtained regarding amount of time allocated for reading and amount of time students were engaged in different tasks, activities, or responses and the appropriateness of the task measured by student success rate on specific tasks.

The purpose of Chapter IV is to present the results of the analysis of the data. This chapter is divided into two sections: (a) a description of the school and classroom settings and (b) a presentation of the quantitative and qualitative aspects of classroom activities obtained through direct observation in the classroom. The observation data are discussed in five sections which correspond to the research questions presented in Chapter I: (a) how much time was allocated for reading in both settings, and of that time, how much time did learning disabled children spend engaged in reading instruction or reading activities; (b) during time allocated for reading in both settings, what percent of time was spent by learning disabled children in different instructional activities; (c) during time allocated for reading in both settings, what percent of time was spent by learning disabled children in different instructional tasks; (d) during time allocated for reading in both settings, what percent of time was spent by learning disabled children in different responses to tasks; and (e) during time allocated for reading in both settings, what was the performance level of students' active responses on reading practice exercises?

Description of the School and Classroom Setting

One elementary school in a large city system in North Dakota was randomly chosen from the 11 elementary schools within the system. Seven learning disabled students were randomly selected for inclusion in this study.

The School

Enrollment at the kindergarden through sixth grade school was 385 students. The teaching staff was 16 regular education teachers and seven full-time special education teachers (speech, learning disabilities, educable mentally handicapped, and gifted) and two additional itinerant special education teachers.

All students except four attending the school were Caucasian; one student was of mixed nationality and three students were Native Americans. The teaching and administrative staff considered the school to be a middle class neighborhood school. The only students bused were the few who lived on farms adjacent to the city limits.

The physical plant was 14 years old and well maintained. Classrooms were large and carpeted with two smaller rooms opening off each classroom. The smaller rooms were generally used as the teacher's office area or small group activity rooms. Average class size for the school was 22 students per class.

Instructional materials used in each classroom varied. Observers noted all materials in use at the time of the investigation were less than seven years old. When asked by the observers, the regular and special education teachers said they felt their class budgets were more than adequate. Teachers told observers they never had material requests refused by the administration because of lack of funds. Classroom teachers also said there were no restrictions placed upon the materials they could use within their classroom.

When interviewed by the author, the principal stated that students at the school generally scored at the bottom of the top third of the Bismarck elementary schools on national tests. Another indication of the students' abilities provided by the principal was a fifth grade mean IQ score of 118 on the Otis Lennon Intelligence Test administered in 1981. Demographic information about the school as well as mean test scores of the third, fourth, fifth, and sixth grades are presented in Table 5.

The Resource Room

The LD resource room was located in the main school building next to the classroom for educable mentally handicapped students. It was the same as the regular education classrooms in shape and size. Furniture consisted of tables, desks, chairs, bookcases, a beanbag chair, and four study carrels.

The LD teacher had three years of teaching experience in the public school system. This was her second year at the elementary school as well as her second year as an LD teacher. She had one year of teaching experience in an elementary classroom, two additional years of teaching experience as a Head Start teacher and had a bachelor's degree in elementary education and a master's degree in learning disabilities.

Table 5

Demographic and Test Information
For Students at Rita Murphy Elementary School
for the 1982-1983 School Year

	Total School	Grade Levels			
		3rd	4th	5th	6th
Demographic Information:					
Number of students	385	66	48	60	73
Sex Distribution					
Boys	198	42	21	33	40
Girls	187	24	27	27	33
Racial Distribution					
Caucasian	381	64	48	59	73
Native American	4	1	0	1	0
Black					
Other	1	1			
Test Information:					
Academic Skills (Iowa Test of Basic Skills, administered 1982) Percentile scores by grade levels:					
Vocabulary		*	86	88	89
Reading		*	90	94	96
Language Skills		*	93	92	92
Study Skills		*	94	95	99
Math		*	67	71	94
Comprehensive		*	89	91	95
Intelligence (Otis Lennon Intelligence Test, administered 1981)					
$\overline{IQ}$		*	*	118	*

*not administered in these grades

The LD teacher was responsible for the educational programming of the 28 LD students who attended her class and the supervision of 6 LD students mainstreamed full-time into regular education classrooms. In addition to the LD resource room teacher there was a full-time teacher aide in the LD classroom. The teacher's aide had a bachelor's degree in elementary education and was completing her master's degree in learning disabilities. The LD teacher and aide shared classroom responsibilities of developing student programs, teaching, evaluating student progress, writing educational reports, and consulting with regular teachers.

Students attended the learning disabilities resource room from 15 minutes to 2 hours a day; the average time spent in the resource room was 30 minutes a day. Observers noted that instruction was generally one student working with the aide or teacher although small groups were used occasionally for reading instruction or non-instructional games.

Each day observers indicated students entered the class, received verbal instructions from the teacher/aide as to what they were to do that class period and the materials they needed from the teacher or aide. The students would then choose a seat and begin work. During class the teacher/aide was observed walking around the classroom providing direct instruction to a student, "checking" students' progress, or was located at her desk.

While the LD teacher/aide gave students immediate feedback regarding their classroom behavior, feedback regarding academic performance was delayed. The teacher or aide responded to students' academic tasks at the end of the class period or during the next school day.

When student test scores in reading were examined by the author, reading levels ranged from second to third grade on their most recent IEP's. Reading scores were on the Woodcock Reading Mastery Test. Evaluations were approximately a year old (See Appendix F). In addition, the LD teacher stated that three of the LD students included in this investigation were on medication for "hyperactivity."

The Regular Classroom

The students' regular class teachers were certified at the elementary level. Their only training or coursework in special education was a full-day workshop on mainstreaming presented by the local school district Department of Special Education prior to the 1982-1983 school year. Unlike the special education teacher, regular education teachers were not provided with a teacher aide during the school day.

Third grade. The third grade LD students included in this investigation were in different homerooms but in the same reading class. The third grade teachers divided the entire third grade into different reading groups of similar ability. The regular classroom teacher who taught the LD students reading was in her 14th year of teaching.

When asked by the observers to rank the LD students in reading ability and performance, the regular education reading teacher placed one student in the upper third of the reading class and the other in the lower third. Both students had been placed in the lowest ability reading class.

The instructional format observed most often during reading time was one student reading aloud from the assigned basal reader as the other students "followed along in their books." The teacher corrected student reading errors by saying the word or phrase loud enough for the entire class to hear. The teacher was not observed positively reinforcing students or providing feedback to students for correct responses or for their efforts. After the story was read, students would work on worksheets, in the workbook from the basal series, or in a commercial reading kit. The class had just started the second reader on the third grade level in the basal series when the investigation took place.

Observers noted the teacher spent most of reading time in front of the class at her desk. When oral reading aloud activity was completed she was observed walking about the class helping students who requested individual help by raising their hands.

Fourth grade. The fourth grade teachers chose not to group their students for reading instruction. However, both fourth grade LD students were in the same regular education classroom. Their regular education teacher was in her 14th year of teaching.

There were 21 students in the classroom during reading time. Student desks were arranged in rows and class business and directions for activities were conducted in a whole class format. Material with student and small group formats were used during reading instruction and reading practice. The entire class was assigned the same reading activity or task. Students requiring additional practice or instruction worked with the teacher in a small group format while the rest of the class did homework at their desks. The regular class teacher remained at the front of the class during large group activities, but moved to one of the small rooms off the classroom for small group activities.

When asked by the observer, the regular class teacher placed both LD students at the bottom of the class in reading ability and performance. The class was working in the second book of the fourth grade basal series.

Fifth grade. The fifth grade teachers chose to group their students for reading instruction. Both LD students were in the same reading class. Their regular education reading teacher was in her 6th year of teaching. Class size during reading instruction was 22 students.

During reading time, the entire class worked on the same task or activity for "they are all on the same reading level." The classroom was traditional in appearance with desks in rows. No learning centers or alternative activity areas were observed. The teacher did not use praise during class but often made negative comments related to students' academic or social behaviors. These comments were delivered to individual students or the entire class as the teacher walked around the classroom.

Both LD students were assigned fourth grade basal readers but were working on a third grade level in a commercial reading kit used in class. The classroom teacher placed both students in the middle of the class in reading ability and performance.

Sixth grade. Only one sixth grade LD student attended both the regular and resource room classes for reading and was included in the investigation. Since the sixth grade did not group children for reading instruction his regular classroom teacher also taught him reading. She was in her 12th year of teaching.

The classroom was arranged in clusters of two to four desks and the 24 students were allowed to sit wherever they wished. Instruction was primarily large group and material-with-student. Some small group activities were also observed.

The class was divided into a low and high reading group; the target student was in the lower group. His reading teacher told observers his reading ability and performance was the lowest in the class.

Unlike the other grades, basal readers were not used in the sixth grade classroom during the observation period. While students worked on a teacher-developed unit on "Propaganda" the LD student worked on activities and tasks provided by the LD teacher. Students were observed to have their classwork graded every morning at the beginning of class. The LD student brought his work to the learning disability resource room with him to be graded by the LD teacher.

The regular class teacher was observed to spend the beginning of class at her desk recording student grades. Once this was completed she walked around the classroom to answer student questions. She was observed interacting with the LD student.

Qualitative and Quantitative Aspects of Instruction

The time use data is presented in five sections, each addressing one of the research questions identified in Chapter I. The number of minutes allocated for reading and spent in reading was examined in question 1. Data are presented in the number of minutes allocated and percent of allocated time spent in reading. Because in questions 2 through 4 addressed issues related to student engaged rate during time allocated for reading, the percent of time allocated for reading was discussed rather than the number of minutes students were engaged. Both number of minutes and percentages of total time allocated for reading are provided in tables. When data were analyzed statistically, the small sample size and large variances within the dependent variables caused some differences to be statistically significant while other comparisons, with possibly greater differences between means, were not significantly different.

Time Allocated and Spent in Reading

The first research question was: how much time was allocated for reading in both settings, and of that time, how much time did LD children spend engaged in reading instruction or activities? The number of minutes allocated was obtained from teacher responses on the General Data Questionnaire. The amount of time spent in reading activities (defined as Reading Practice activities plus Other Reading activities) was determined through direct observation in the classrooms.

An average of 22.3 minutes was allocated for reading in the resource classroom. A significantly greater amount of time was allocated for reading in the regular classroom (51.4 minutes) than in the resource room (22.3 minutes, $\underline{t} = -4.22$; $\underline{p} < .05$). The amount of time allocated for reading in the resource classroom ranged from 10 to 30 minutes and the amount of time allocated for reading instruction in the regular classroom ranged from 30 to 60 minutes.

As indicated in Table 6, while a mean of 22.3 minutes was scheduled for reading instruction, an average of 7.8 minutes was actually spent by students in reading activities (defined as Reading Practice activities plus Other Reading activities) when they were in the resource classroom. The average amount of time spent in reading activities in the regular classroom was 39.1 minutes (see Table 6). The difference in amount of time students actually spent in reading activities in the two settings was found to be statistically significant ($\underline{t} = 5.33$, $\underline{p} < 0.05$). The amount of time students spent in reading activities ranged from 0 to 16 minutes in the resource classroom and from 23 to 54 minutes in the regular classroom.

Table 6

Time Allocated for Reading Activities and
Time Spent on Reading in the
Resource Room and the Regular Classroom

	Setting	
	Resource	Regular
Minutes Allocated for Reading		
$\bar{x}$	22.3	51.4
sd	8.1	14.6
Minutes Spent in Reading Activity		
$\bar{x}$	7.8	39.1
sd	6.2	11.1

Table 6

Time Allocated for Reading Activities and Time Spent on Reading in the Resource Room and the Regular Classroom

	$\bar{x}$ Minutes Allocated	$\bar{x}$ Minutes Spent
Resource	22.3 (SD = 8.1)	7.8 (SD = 6.2)
Regular	51.4 (SD = 14.6)	39.1 (SD = 11.1)

Time Spent in Different Instructional Activities

The second research question was: During time allocated for reading in both settings, what percentage of time was spent by learning disabled children in different activities? Time use data were obtained through direct observation in the classroom and are presented in Tables 7 and 8. The number of minutes and percentage of time allocated for reading spent in the different activities are presented in Table 7. A comparison between settings of how time was spent is presented in Table 8.

The resource room. When students were in the resource room, the largest percentage of the time allocated for reading was spent in Other Activities (39% of the time allocated for reading). When observer comments were examined, Other Activites included such activities as "time-out", being punished (and required to simply sit), students discussing their inappropriate performance or behaviors with the resource teacher/aide. Other activities also included students' finishing classwork or homework from their regular education classes such as writing a speech, reviewing social studies material, and drawing a political cartoon.

Table 7

Number of Minutes and Percentages of Time Spent in Instructional Activities in Resource and Regular Classrooms for LD Students

Instructional Activities	Resource Room minutes	Resource Room %	Regular Class minutes	Regular Class %
Reading Practice				
$\bar{x}$	5.9	24.4	33.7	66.8
sd	6.4	27.3	8.7	10.7
Free Time				
$\bar{x}$	1.3	6.6	0.5	0.9
sd	1.4	8.4	1.0	1.8
Transition				
$\bar{x}$	3.6	14.6	5.1	9.5
sd	2.4	7.3	2.5	3.1
Other Reading				
$\bar{x}$	1.7	12.8	5.5	10.5
sd	2.3	25.4	4.6	7.1
Other Activities				
$\bar{x}$	9.2	38.9	6.7	12.3
sd	8.0	32.4	5.8	10.1
Can't Tell				
$\bar{x}$	0.7	2.5	0.1	0.0
sd	2.0	6.6	0.2	0.0

Note. Difference between settings significant at the 0.05 level for Reading Practice activities.

Table 8

Comparison of Percentage of Allocated Time
Spent in Different Activities
for LD Students
In Resource and Regular Classrooms

	Resource versus Regular		
Activity	Difference in Minutes Between Means	_t_ Value	_p_ Value
Reading Practice	-42.4	-5.44*	0.00
Free Time	5.7	1.75	0.13
Transition	5.0	1.52	0.18
Other Reading Activities	2.3	0.2	0.83
Other Activities	26.6	2.12	0.08

Note. Negative numbers indicate more time spent in the regular classroom.

$^{*}p < .05$

Students spent the second largest percentage of time, about one-fourth of time allocated for reading, on Reading Practice activities (24.4% of the time allocated for reading). Approximately 15% of reading time was spent in Transition activities (14.6% of time allocated for reading) and about 13% of the time was spent in Other Reading activities (12.8% of time allocated for reading), such as taking a test or listening to directions for reading assignments. Students spent very little time in Free Time (6.6% of time allocated for reading) and activities in which the observer could not identify the activity (Can't Tell, 2.5%).

The regular classroom. When in the regular classroom, students spent, on the average, slightly more than two-thirds of reading time in Reading Practice activities (66.8% of time allocated for reading). Students spent approximately 20% of total reading time in the combined areas of Other Activities, Free Time, and Transition activities (Other Activities, 10.55; Free Time, 0.9%; Transition, 9.5% of time allocated for reading).

Comparing Time Use. As indicated in Table 8 the only comparison found to be significantly different when comparisons were made between settings was the category of Reading Practice activities ($t = -5.44$, $p < 0.05$). Students spent a significantly greater percentage of time allocated for reading in reading practice when they were in the regular classroom. No significant differences were identified between the two settings in the percentage of time spent in Free Time Activities, Transition Activities, Other Reading Activities, Other Activities, and activities in which the observer could not identify the students' behaviors (Free Time, $t = 1.75$, $p > 0.05$; Transition, $t = 1.52$, $p > 0.05$; Other Reading, $t = 0.2$; $p > 0.05$; Other Activities, $t = 2.1$, $p > 0.05$; Can't Tell, $t = 1.0$, $p > 0.05$).

Time Spent in Instructional Tasks

The third research question was: during time allocated for reading in both settings, what percentage of time was spent by learning disabled children in different instructional tasks? Time use data were obtained through direct observation in the classroom. Percentage of total time allocated for reading as well as the number of minutes of time spent in the different instructional tasks was tabulated.

The resource room. As indicated in Table 9 when the students were in the resource room they spent approximately one-fourth of their reading time engaged in workbooks or worksheets (Workbooks, 25.5% of time allocated for reading; Worksheets, 25.8%). The students were engaged in Student-Teacher Interaction and Other Tasks approximately 15% of the time. Less than 10% of their time was spent engaged in readers, in paper-pencil or listening tasks (Student-

Table 9

Time Spent in Instructional Tasks
in Resource and Regular Classrooms for LD Students

Instructional Task	Resource Room		Regular Class	
	minutes	%	minutes	%
Readers				
$\bar{x}$	1.4	7.4	7.8	18.5
sd	2.4	10.7	4.8	15.7
Workbooks				
$\bar{x}$	6.0	26.6	24.5	44.1
sd	7.0	25.8	14.1	17.6
Worksheets				
$\bar{x}$	5.6	25.8	5.9	10.1
sd	5.8	24.5	8.6	13.9
Paper/Pencil				
$\bar{x}$	1.3	5.6	0.3	0.4
sd	1.8	8.7	0.7	1.1
Student/Teacher Interaction				
$\bar{x}$	3.8	16.9	1.2	2.1
sd	2.3	9.5	2.1	3.7
Listening				
$\bar{x}$	0.6	3.3	5.4	9.8
sd	1.0	4.2	2.4	2.7
Other Media				
$\bar{x}$	0.7	0.3	2.6	4.3
sd	1.9	0.7	3.2	5.3
Other Tasks				
$\bar{x}$	3.5	14.4	5.6	9.5
sd	2.2	5.6	4.1	5.5
Can't Tell				
$\bar{x}$	0.0	0.0	0.8	1.3
sd	0.0	0.0	2.1	4.8

Teacher Interaction, 16.9%; Other Tasks, 14.4%; Readers, 7.4%; Paper/Pencil Tasks, 5.6%; Listening Tasks, 3.3% of time allocated for reading). Students were observed to spend very little time working with Other Media (0.3% of time allocated for reading) or tasks in which the observer could not categorize (Can't Tell, 0.0%).

The regular classroom. Students spent slightly less than half their reading time working in workbooks in the regular classroom (44.1% of time allocated for reading) and about one-fifth of their reading time working in readers (18.5%). They spent less than 10% of their time engaged in listening tasks (9.8%), or tasks not specified on the observation instrument (Other Tasks, 9.5% of time allocated for reading). The mean percentage of time spent in tasks using other media or involving student-teacher interaction was less than 5% of the total time (Other Media, 4.3% of time allocated for reading; Student-Teacher Interaction, 2.1% of time allocated for reading). Students were engaged in tasks which the observer could not categorize in only 1.8% of the time allocated for reading. As indicated in Table 9, the lowest mean percentage of time spent by LD students when in the regular classroom was spent on paper/pencil tasks (0.4% of time allocated for reading).

Comparing Time Engaged in Different Tasks. The mean percentage of time students were engaged in different tasks was compared and only in three categories, was the percentage of time allocated for reading found to be significantly different. As indicated in Table 10, students were engaged in Student-Teacher Interaction and Other Tasks for a significantly greater mean percentage of reading time when in the resource room setting than the regular class setting (Student-Teacher Interaction, $t = 3.9$, $p < 0.05$; Other Tasks, $t = 3.34$, $p < 0.05$). Students were engaged a significantly larger percentage of reading time in listening tasks in the regular class setting (Listening, $t = -3.0$, $p < 0.05$). Differences were observed in the amount of reading time students engaged in readers, workbooks, worksheets, paper and pencil tasks, and tasks in which the observer was unable to categorize the task. Comparisons between settings did not result in differences which were statistically different (Readers, $t = -1.43$, $p > 0.05$; Workbooks, $t = -1.99$, $p > 0.05$; Worksheets, $t = 2.0$, $p > 0.05$; Can't Tell, $t = -1.0$, $p > 0.05$.

Time Spent in Different Responses

The fourth research question was: during time allocated for reading in both settings, what percentage of time was spent by learning disabled children in different responses to tasks? Data were obtained through direct observation and are presented in tabular form in Tables 11 and 12.

Table 10

Comparison of Percentage of Allocated Time
Spent on Different Tasks
for LD Students
In Resource and Regular Classrooms

	Resource versus Regular		
Tasks	Difference in Minutes Between Means	t Value	p Value
Readers	-11.1	-1.43	0.2038
Workbooks	-17.5	-1.99	0.0933
Worksheets	15.6	2.0	0.0889
Paper/Pencil Task	5.1	1.5	0.1805
Student/Teacher Interaction	14.8	3.9*	0.0080
Listening	-6.6	-3.0*	0.0240
Other Media	-4.05	-1.92	0.1026
Other Task	4.9	3.34*	0.0157
Can't Tell	-1.8	-1.0	0.3559

Note. Negative numbers indicate more time spent in the regular classroom setting.

*_p_ < .05.

Table 11

Number of Minutes and Percentages of Time Spent in Student Responses in Resource and Regular Classrooms for LD Students

	Setting			
	Resource Room		Regular Class	
Student Responses	minutes	%	minutes	%
Writing				
$\bar{x}$	5.1	23.8	9.7	21.3
sd	2.9	11.1	7.0	9.6
Reading Aloud				
$\bar{x}$	3.4	17.0	0.8	2.9
sd	2.6	14.0	1.1	4.6
Reading Silently				
$\bar{x}$	4.1	17.7	22.3	44.0
sd	4.2	16.8	8.9	11.8
Discussion				
$\bar{x}$	2.9	11.9	0.0	0.0
sd	2.8	12.3	0.0	0.0
Ask/Answer Questions				
$\bar{x}$	0.9	4.5	0.3	0.6
sd	0.7	4.3	0.5	1.0
Task Management				
$\bar{x}$	3.8	15.0	7.2	12.4
sd	2.9	8.2	4.2	6.0
Inappropriate Response				
$\bar{x}$	0.7	2.9	2.3	4.3
sd	0.7	2.8	2.0	3.6
Other Response				
$\bar{x}$	1.6	6.4	6.3	12.6
sd	1.7	5.1	2.6	5.8

Table 12

Comparison of Percentage of Allocated Time Spent in Different Responses for LD Students In Resource and Regular Classrooms

	Resource versus Regular		
Responses	Difference In Minutes Between Means	*t* Value	*p* Value
Writing	2.7	0.5	0.65
Reading Aloud	14.1	2.6*	0.04
Reading Silently	-26.3	-2.99*	0.02
Discussion	11.9	2.56*	0.04
Ask/Answer Questions	3.9	2.25	0.07
Task Management Response	2.6	0.78	0.47
Inappropriate Response	-1.4	-0.89	0.41
Other Response	-6.2	-1.68	0.14

Note. Negative numbers indicate more time spent in the regular classroom.

*$p < .05$.

Resource room. Students spent the greatest percentage of time in active responses such as reading aloud, writing, discussing, and asking/answering questions. Students were engaged in these responses for more than 50% of the time allocated for reading. Students were engaged in reading silently for about 18% of reading time, task management responses about 15% of reading time, and inappropriate responses for approximately 3% of the time allocated for reading.

The regular classroom. Students spent much more time in passive responses in the regular classroom. The largest mean percentage of time was spent Reading Silently (44.0% of time allocated for reading).

When active responses were examined, students spent on the average, one-fifth of their time in writing responses. Very little of reading time was spent asking/answering questions or in discussion (Writing, 21.3%; Ask/Answer Questions, 0.6%; Discussion, 0.0%).

Students spent approximately 20% of time allocated for reading in Task Management responses and Other Responses (Task Management 12.4% of time allocated for reading; Other Responses, 12.6%). Students were engaged in Inappropriate Responses 4.3% of the time allocated for reading. The lowest mean percentage of time was spent in Ask/Answer Questions (0.6% of time allocated for reading) and Discussion (0.0%).

Comparing Student Responses. Three types of responses were found to be significantly different when the two settings were compared. Students spent a significantly greater mean percentage of time in active responses (Reading Aloud, $t = 2.63$, $p < 0.05$; Discussion, $t = 2.56$, $p < 0.05$) when in the resource room. In contrast, students were engaged in reading silently significantly more in the regular classroom ($t = -2.99$, $p < 0.05$). As indicated in Table 12, no other differences in responses were found to be significantly different when regular and resource room settings were compared.

Active Responses of Students to Reading Activities

The final research question was: during time allocated for reading in both settings, what was the performance level of students' active responses on reading practice exercises? The success rate or performance level was determined by the percentage of items correct on reading practice activities which required a written response. Reading tests, passages read aloud, or responses in a question/answer period were not considered.

The total number of activities in which individual students were engaged varied from zero to two. The number of responses per activity requiring a written response varied a great deal, from 5 to 45 items in the resource classroom and 5 to 20 in the regular classroom.

Variance in the individual student's success rate, or performance level, was also noted. Student success rates ranged from 40% correct to 100% correct in the resource room. The mean percent correct was 60.6%. When in the regular classroom success rates ranged from 63% correct to 100% correct, with an average of 82.9% correct. The difference between settings was not significant at the 0.05 level.

Summary

Observational data gathered in the two settings yielded differences in the number of minutes per day allocated or scheduled for reading to occur. While an average of 51.4 minutes was scheduled for reading in the regular classroom, only 22.3 minutes were scheduled for reading in the resource classroom. In the regular classroom 39.1 minutes of the 51.4 minutes allocated for reading were actually spent in reading activities. Only 7.8 minutes of the 22.4 minutes allocated were spent in reading activities in the resource classroom. When the amount of time allocated for reading was compared, the difference was found to be statistically significant.

Other significant differences were found when types of activities, tasks, and student responses were compared. Of time allocated for reading, students spent a significantly greater percentage of time in reading practice activities when they were in the regular classroom. They also spent a significantly larger mean percentage of time engaged listening tasks when in the regular classroom. Students were engaged in student-teacher interaction tasks and "other" tasks for significantly greater percentages of time when they were in the resource classroom as well.

When responses were examined, students were observed to spend a significantly greater mean percentage of time in active responses when in the resource classroom than the regular reading classroom. The difference in success rates (82.9 % correct in the regular classroom and 60.6% correct in the resource classroom) was not statistically significant at the 0.05 level.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Although handicapped individuals have always existed, it has only been within the past 100 years that they have begun to receive both education and basic care (Meyen, 1983). More recent is the opportunity for handicapped children to receive an education within the framework of the public school system and most recent, with the passage of P.L. 94-142 in 1975, is the legal mandate that every handicapped child has a right to a free public education. Public Law 94-142 also states that the education provided be appropriate to the handicapped child's unique educational needs.

The Handicapped Student

A variety of changes or adaptations can be made to better meet the handicapped child's unique educational needs. One possible change is to alter where a child's instruction occurs. The handicapped child can receive instruction in a variety of educational settings ranging from full-time institutional care to minimal special education services provided in regular classrooms. Placement decisisons must be made after an analysis of both the student's needs and how well different settings can meet those needs.

For some handicapped children residential facilities or special schools are an appropriate educational setting. Other exceptional children do not need such restrictive environments. Many mildly handicapped children, for example, receive special education in a resource room setting. Unlike a special school which segregates the handicapped child from non-handicapped peers, placement in a resource room allows handicapped children to spend part of the day in the special education classroom and part in the regular class. Regardless of severity of the handicap, type of handicap, or where special education services are offered, special education is assumed to be more appropriate for the child than the education offered in a regular education classroom.

To meet some handicapped children's educational needs, a regular education classroom is obviously inappropriate. Instruction in braille, sign language, or mobility training is not offered in most regular education classrooms. Even the academic instruction provided in special education classrooms for the visually or hearing impaired is often different than the academic instruction provided in regular education classrooms. For some handicapped children however, the difference between the instruction provided in the regular classroom and the special education classroom are not obvious.

Differences are assumed to occur, but the assumption is without adequate empirical support. The assumption that the education available in the special education classroom is different and more appropriate than the education provided in the regular classroom is the basis for placement decisions of both mildly and severely handicapped children. Because of this, the assumption should be examined regardless whether the instruction provided is communication skills, daily living skills, or academic skills such as math or reading.

The general question addressed in this investigation was, "how special is special education?" Specifically, the instruction provided LD students during time allocated for reading was examined through direct observation and report techniques. Descriptive and comparative data were obtained. Because of the varied nature of programs, services, and needs of handicapped students the author limited this investigation to elementary school learning disabled students with reading deficits.

The Learning Disabled Student

Unknown to most educators prior to the 1960's, the category of learning disabilities is one of the most prevalent handicapping conditions served in public schools today (Mercer, 1983). The theories and research which provide a basis for the instruction of the LD student can be identified in the writings of physicians and psychologists published during the 1800's (Lerner, 1981).

Instructional practices for the learning disabled were first based upon work with brain injured adults and children. Called ability training, an early approach focused upon the evaluation and instruction of the learning "processes". Learning disabled children's problems with academic skill development were thought to be the result of impairments in processes which were assumed to underlie academic functioning. Some of the processes specified were perceptual-motor, visual perception, auditory perception, and memory (Ysseldyke & Salvia, 1974).

Teachers implementing the ability model would first identify a student's specific strengths and weaknesses in process areas. Instruction in visual discrimination, eye-hand coordination, auditory training, or fine and/or gross motor development would then be provided. Teachers were trained to (a) teach through the child's best modality or process area, (b) strengthen the weak processes, and (c) use the strong modality when providing instruction in academic basic skills. Direct instruction of academic skills could be provided, but emphasis was placed on process or ability training.

The use of ability training practices in LD classrooms remained dominant through the early 1970's (Mercer, 1983).

Still supported by many in the field of learning disabilities, the use of the ability model for providing instruction in the LD classroom has received little support in the professional literature (Hammill, Goodman, & Wiederholt, 1974; Hammill & Larsen, 1974; 1978; Vellutino, Smith, Steger, & Kaman, 1975; Ysseldyke & Salvia, 1974).

During the 1970's a second approach of instructing the LD student became popular. Supported by research, the ability or task analysis model has become the primary instructional approach for the learning disabled (Mercer, 1983). The focus of this model is on academic skills the student needs to learn rather than an assumed disability within the child. Academic skills are broken into component or subskills and arranged in sequential order to form a skill hierarchy. Once the LD child's weak areas are assessed, instruction in subskills is provided following the sequential order of the skill hierarchy.

As reported by Lerner (1983), a teacher implementing this approach would: (a) focus upon student performance and task variables which closely approximate the skill to be learned, (b) emphasize direct instruction, (c) determine competencies or skills the student already possesses and capitalize on them, (d) not make assumptions about the learner's ability to acquire a specific skill, and (e) develop individualized programs for students.

Classroom Observations

As the results of this investigation are reviewed, it is important to note that this study was a modified case study rather than an experimental investigation. The intent was to investigate one setting thoroughly, thereby providing another piece of information relating to special education. In addition, this study was one of a series which are intended to examine practices within the field.

Two questions can be raised from the results of this investigation. First, how different is special education from regular education and second, does the instruction observed reflect a "best practices" approach to teaching the learning disabled? Although not identified as a research question of this investigation, the second question becomes important when placement decisions and classroom instruction for the learning disabled student are considered.

The first question addresses the instruction provided in the regular and special education classrooms. When comparisons between the two settings were conducted, these differences were identified:

1. Student-teacher ratios were very different between settings (22:1 in the regular class, 5:2 in the resource room).

2. Regular class teachers had more teaching experience than the LD resource teacher. Mean years of teaching experience for the regular teachers was 11.5. The LD teacher was in her third year of public school teaching.
3. Observers noted instruction in the regular class was generally whole-class and material-with-student. In the resource room, one-student-with-one-teacher and material-with-student were often observed.
4. A significant difference between settings was identified in time allocated or scheduled for for reading. Almost twice as much time was allocated for reading in the regular class (51 minutes) as in the resource room (22 minutes).
5. A significant difference between settings was also found in the amount of time students spent engaged in reading. Students spent approximately 60% of time allocated for reading in reading instruction or practice when in the regular class and approximately 30% when in the LD classroom.
6. Students spent significantly more time in reading practice activities when in the regular class and significantly more time in other activities when in the resource room. Observers

noted activities such as doing classwork or homework from other classes, sitting in time-out, or receiving "counseling" regarding inappropriate behaviors in other classes as other activities.

7. When tasks were examined, students spent significantly more time listening in the regular class. They spent significantly more time in student-teacher interaction or other activities such as drawing a cartoon or working on a speech when in the resource room. Students spent about the same amount of time in workbooks and/or worksheets in both classes.
8. Students spent significantly more time reading silently in the regular classroom and more time reading aloud in the resource room.
9. There was no statistically significant difference in students' success rate (level of performance) in select activities between settings. Although mean percentage correct in the regular class was 83% and the mean percentage of items correct in the resource room was 61%.
10. Teacher feedback regarding student social or academic behavior was similar in both settings.

Aspects of instruction not under direct control of the classroom teachers, such as student-teacher ratio and time allocated for reading, were found to be different between settings. Other components of instruction, such as the amount of class time actually spent in reading, types of activities, tasks, and student responses, which teachers could have altered were found to be very similar.

The assumption that special education was different than regular education was not supported by this investigation or a similar study by Thurlow, Ysseldyke, Graden, and Algozzine (1983). The instruction provided in the special education classroom was not observed to be substantially different than the education available in the regular classroom.

The issue addressed by the second question was whether the instruction observed in the LD classroom represented current theory and practice. Observational data and anecdotal notes were examined for evidence of the use of the task analysis model, process model, or other models of instruction.

Characteristics identified by Lerner (1983) were used as indicators of teacher use of the task analysis model. When data were examined, there was little evidence of the task analysis approach in instructing the learning disabled. The LD teacher was not observed using a skill hierarchy for evaluation of students' abilities, instructional planning, or teaching.

Tests used were standardized formal instruments used to determine eligibility for placement rather than instructional needs. Use of criterion referenced and/or informal tests was not observed. Instructional plans were observed to be developed from teacher manuals and guides included with commercial materials rather than individual student needs. Finally, student performance data were not used to influence teacher decisions about instruction. For example, instructional plans for the two students' whose success rates were below 70% were not altered during the observation period. The LD teacher, however, was observed providing direct instruction in academic skills. She was not observed instructing students in processes during the investigation period. Instruction in the LD classroom did not appear to reflect current theory or research findings.

Alternate Explanations for Results

There are several possible explanations for the results of this investigation. Factors identified in the Limitations and Delimitations section of Chapter 1 suggest some variables which could have influenced the results. Additional variables related to student characteristics, teacher characteristics, as well as school-related variables may suggest alternate explanations for the results of this study.

Although the school and students included in this investigation were randomly chosen, several characteristics of the population used in this study could have affected the types of instruction provided in both the regular and resource classrooms. When test scores were examined, all students were found to be within "normal" range of intelligence. The lowest full-scale IQ score identified was an 89 (the sixth grade student). The highest score reported was 120, and the mean score for students was 102. First, the reading level of the students may have affected the instruction provided. Although all students were diagnosed as having a reading deficit, six students were within one year of their grade level. The seventh student was at a 3.2 grade level which placed him below his sixth grade peers but suggests he had some reading skills. All had some reading skills and were at a "practice" reading stage, not at the "breaking the code" stage of reading. While the reading teachers placed students in the bottom portion of their reading group/grade, there was not a child who could be considered a non-reader among the seven students included in this study.

Another characteristic which could have affected instruction in the regular classroom was the social behaviors of the subjects. Although three students were on Ritalin for "hyperactivity", the amount of time students were engaged in inappropriate responses in either setting was minimal.

Students appeared to possess appropriate social skills to function in the regular classroom where less amounts of teacher interaction, supervision, and individualized instruction were available.

The socio-economic level of the students could have influenced the type of instruction provided the students. The school was considered to be an upper middle-class school. The possible expectations of both teachers and parents regarding student performance and behavior could have been reflected in the type academic instruction teachers chose for their classrooms.

A second group of factors which could have affected the types of education provided at the school can be titled teacher characteristics. There was very low teacher turnover at the school--the LD teacher was the newest teacher on staff. Morale was very high at the school. Teachers felt the administration supported their efforts in the classroom, and they supported one another. All regular class teachers of students participating in this study held master's degrees suggesting they possessed additional knowledge of elementary teaching. They also had many years of teaching experience (mean = 12.5). Although the regular education teachers had minimal formal training in teaching the handicapped, their years of teaching and managing elementary children of varying abilities within their classrooms undoubtedly affected their choices of instructional materials, planning, organization and pacing of instruction, grouping arrangements, and instruction.

A final factor which could have affected instruction within the classrooms is related to the professional interactions within the school. Expectations related to teacher roles of the LD teacher and regular education teachers could have altered the instruction which occurred in the LD classroom. Differences in perceptions of who was responsible for what instruction could have affected what was provided. For example, if the perceived role of the LD teacher was in part that of a tutor, the time in the LD classroom spent helping students with assignments from other classes could be explained. If teachers felt the LD students attended the resource room for supplemental reading instruction with primary instruction occurring in their classroom activities and tasks in which students were engaged would differ from a reverse situation where primary instruction was to occur in the resource room.

Implications and Future Research

An examination of some of the educational practices and theories within the field of special education appear to be based upon limited empirical study. However, researchers and practitioners within the field have recently begun to contribute to the knowledge base upon which decisions are based. The findings of this investigation, combined with results of others, may provide additonal information regarding educational practeces in the areas of general education, special education, and learing disabilities.

A discussion of implications ard future research trends is presented in two sections. The first relates to instruction provided in regular and special education classrooms. The second addresses the instruction provided in the LD room.

Special Education and Regular Education

An examination of current teacher training provided both regular and special education teachers is suggested by analysis of the results of this study. Teachers in both settings were observed to implement similar strategies using similar materials. Management strategies observed were also similar. Teachers with very limited special education training appeared to be teaching LD students as effectively as the LD teacher. While this investigation studied elementary aged LD children in one setting a similar study conducted in Minnesota investigated a small number of elementary LD children in eight settings. Descriptive and comparative information regarding instruction provided in resource and regular classrooms for other categories of mildly handicapped children, such as the emotionally handicapped, should be obtained. Elementary, junior high, and high school programs should be examined, as well as other alternate or compensatory programs, such as Chapter I or the remedial reading programs found in many schools.

An examination of the findings of this study and findings of the Thurlow, Ysseldyke and Graden study (1982) suggest several practical implications for teacher education and areas for future research. The instruction provided by regular education teachers and the special education teacher was found to be very similar. A question which must be asked is "Why?". One answer could be the training programs of the teachers: the regular education programs may have developed the knowledge needed by teachers to work with the LD students, or the LD teacher's training program may not have been sufficient in developing additional strategies to use with the LD students in the resource room. The required number of courses or length of programs, the content of the courses, objectives of the different programs, required field experiences and student teaching experiences should be examined in the universities and colleges to determine if significant differences in teacher preparation of elementary and special educators occurs at the pre-service level.

The results of this study also suggest a possible inconsistency between the roles teachers are prepared to follow and the actual roles special education have in the school.

Similarities between regular and special education classrooms may have resulted from roles established by the LD and regular teachers regarding the instructional responsibilities of both teachers. The consistency between roles special education teachers are prepared for and the roles they assume once in teaching positions should be examined. Teachers following a consultant teacher role or that of a tutor may need different teacher training than a teacher whose role in the school requires only instruction in remediation of academics, for example. While different training procedures may be available at a preservice level of teacher training, retraining through inservice education could occur. Assessment of the needs of teachers in the schools would have to be identified prior to development of the inservice programs, however.

Another area which warrants examination is the placement decisions being made concerning the handicapped student. Currently, soon after a handicapped student receives the label of handicapped, they are usually removed from their regular class and placed in a special education program for an appropriate education. The results of this study support reanalysis of the regular classroom as a possible placement choice rather than automatic placement in special education. For some children special education classes may be very appropriate, but for others the regular classroom may be the most appropriate and least restrictive placement decision.

Several areas of future research can be identified. For example, what factors should be considered or examined when the regular classroom is a possible placement choice, i.e. class size, type/amount of student-teacher interactions, performance level of student in regards to those in the class, or the child's handicap such as emotionally disturbed, learning disabled, educable mentally retarded.

The placement decisions and factors which have contributed to those decisions should also be examined. Has the regular classroom with or without consultant services of the special education teacher even been considered or have placement teams disregarded the regular classroom completely?

The Learning Disabled

Several aspects of the education provided in the learning disabilities classroom should be re-examined for practical and theoretical implications. Several implications and areas for future research are presented.

Limited information regarding what actually occurs within the learning disabilities classroom can be identified in the literature. Current practices, such as the use of the task analysis model, are suggested by researchers but it is not known if implementation actually occurs in the classroom.

Implementation of the strategy or theory becomes the responsibility of the teacher in the classroom. The learning disabilities teacher in this investigation did not appear to follow the current instructional model for teaching learning disabilities students. Additional information about current practices used in the public school and college classroom is needed. An examination of current LD training programs should be examined to determine if they support current theory and practice. Investigations involving teacher decisions regarding instructional choices should follow. It is important to note that research findings suggest that teacher training has limited "staying power" when actual classroom practice are examined (Evertson, Howley, & Zlotnik, 1984).

Another area which should be examined is the role the learning disabilities teacher must fill in each school. The LD teacher in this investigation spent a large portion of class time counseling students and providing tutoring for work from other classes. A teacher training program which provided instruction in remediation techniques would have been inappropriate in preparing her to meet this role. Examination of the roles the LD teachers have in the schools would provided additional and useful information when developing preservice or inservice education.

Whether the LD teacher implemented the task analysis model in her classroom, some characteristics of that model should have been observed if the students' IEPs were used for instructional planning. Use of a skill sequence or hierarchy, instructional plans developed for individual students, and continuous or frequent evaluation of student performance were not observed to occur more frequently in the resource room than the regular classroom. Questions regarding the use of the IEP in developing instructional strategies in the classroom are raised. One implication is that the IEP's were not being used for instructional planning or student evaluations. Instruction appeared to be based on teacher manuals of materials used rather than student needs. Whether the LD teacher referred to the IEP when developing instructional plans was not determined, but should be examined.

Another component of the task analysis model of instruction is individualized instruction. A large protion of the time in the resource room was spent in student-teacher interaction or discussion tasks, and observers noted that the instructional format of one-student-with-one-teacher often occurred. When asked, the LD teacher said she spent most of her instructional time in individualized instruction. Prolonged use of teacher time in this instructional arrangement has not been considered an efficient or effective method of teaching for long periods of time (Mercer, 1983). The LD teacher did not appear to develop individualized instructional plans for the students, although she was observed interacting with one student at a time. Why this particular instructional arrangement occurred often in the LD classroom should be examined as well as the instruction which was actually occurring.

Use of the one-to-one instructional format did not appear to affect the students' performance on written activities, however. Although the difference in students' performance levels, or success rates, was not found to differ statistically at a .05 level of significance, the difference between setting is educationally relevant.

The measure of task appropriateness used in this investigation was success rate, or performance level or the students' work presented as percent correct. While the appropriate level for mastery, or the best success rate for an indication of appropriateness of task has not been established in the literature (Steinber & Mauser, 1975), the minimum level suggested for seatwork activities ranged from 80% to 90% correct (Brophy, 1979; Rosenshine, 1983). If the higher figure is used, students in both settings were expected to perform tasks or activities which were too difficult. If the 80% correct figure is used, students were engaged in appropriate tasks when in the regular classroom, but not when they were in the resource room. When this information and the use of "individual" instruction provided in the LD classroom are examined, there appears to be less support for the instruction which occurred in the resource classroom for these children. The regular class teachers provided more·appropriate activities which managing larger classes for longer periods of time. The resource room placement, at least for the children in this investigation, appears to be both inappropriate and inefficient in meeting their needs.

APPENDIX A

ENTRANCE CRITERIA FOR LEARNING DISABILITIES PROGRAMS IN NORTH DAKOTA

Eligibility for this program will be determined by the consensus of a Multidisciplinary Child Study Team. A decision of placement will be determined on the basis of the following criteria:

Criterion 1: The student does not achieve commensurate with his/her age and ability level in one or more areas of academic functioning when provided with learning experiences appropriate to student's age and ability level.

Criterion 2: A severe discrepancy (one year or more) exists between achievement and intellectual ability in one or more of the following areas:

- oral expression
- listening comprehension
- written expression
- basic reading skills
- reading comprehension
- mathematics calculation
- mathematics reasoning
- spelling
- psychomotor functioning.

Criterion 3: The severe discrepancy between ability and achievement is not primarily the result of:

- a visual, hearing or motor disturbance
- mental retardation
- emotional disturbance
- environmental, cultural or economic disadvantage
- insufficient or inappropriate instruction.

The disorders are presumed to be due to central nervous system dysfunction.

Source: Special Services Personnel Manual. Bismark Public Schools, April 1982.

APPENDIX B

FEDERAL GUIDELINES REGARDING THE LEARNING DISABLED

P. L. 94-142, The Education for All Handicapped Children Act, defines learning disability as:

> a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written. This disorder may manifest itself in an imperfect ability to listen think, speak, read, write, spell, or do mathematical calculations.
>
> The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.
>
> The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantages (P. L. 94-192, Regulations, 1977, Sec. 1231a.5). (Blake, 1981, p. 383)

Procedures to be used for diagnosis of a learning disability include:

1. Additional team members. In addition to the people required to diagnose any handicapped child, the team diagnosing an LD pupil must include a regular class teacher and a diagnostic specialist, e.g., a school psychologist, speech/language pathologist, or remedial reading teacher.

2. Criteria for determining the existence of a specific learning disability. The team may

determine that a child has a specific learning disability if:

a) The child does not achieve commensurate with his or her age and ability levels in one or more of the areas listed below when provided with appropriate learning experiences; and

b) The child has a severe discrepancy between achievement and intellectual ability in one or more of the following: oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematics calculation, or mathematics reasoning.

c) The team may not identify a child as having a specific learning disablity if the severe discrepancy between ability and achievement is primarily the result of: a visual, hearing, or motor handicap; mental retardation; emotional disturbance; or environmental, cultural, or economic disadvantage.

3. Observation. At least one team member other than the child's regular teacher shall observe the child's academic performance in the regular classroom setting or other appropriate environment.

4. Written report. The team shall prepare a written report of the results of the evaluation stating:

    a) Whether the child has a specific learning disability;

    b) The basis for making the determination;

    c) The relevant behavior noted during the observation of the child;

    d) The relationship of that behavior to the child's academic functioning;

e) The educationally relevant medical findings, if any;

f) Whether there is a severe discrepancy between achievement and ability which is not correctable without special education and related services; and

g) The determination of ;the team concerning the effects of environmental, cultural, or economic disadvantage.

5. Each team member shall certify in writing whether the report reflects his or her conclusions. If it does not, the team member must submit a separate statement presenting those conclusions.

Adapted from: Blake, K. A. Educating exceptional pupils: An introduction to contempory practices. Reading, MA: Addison-Wesley, 1981.

APPENDIX C

GENERAL DATA QUESTIONNAIRE

Items in Part I request information about your background and experiences. Part II requests information about the school in which you are currently teaching.

Part I:

1. Please indicate the number of years of experience you have as a certified teacher for regular and/or special class placement.

	Regular	Special
High School (Gr. 9-12)	______	______
Junior High (Gr. 7-8)	______	______
Elem. School (Gr. K-6)	______	______
Other teaching experience (specify) ____________	______	______

2. What specific state certification(s) and level(s) do you hold? (Check all current areas in which you are certified.)

____ Regular Education
____ Secondary Education
(specify areas) ______________________________
____
____ Special Education
____ Elem. ____ LD ____ EMH ____ EH ____ Other
____ Sec. ____ LD ____ EMH ____ EH ____ Other
____ Other (specify) ______________________________
____

3. In which area(s) are you presently teaching?

____ LD ____ EH ____ EH/LD ____ EMH
____ General Education-Elementary
____ Other (specify) ______________________________

Part II:

4. If every student in your school was counted, what would be the total enrollment?

_____ students

5. Including yourself, how many special and general education teachers are there in your school (count itinerant teachers):

____ General Educators
____ Special Education Teachers

6. Please indicate the grade elvels and number of children you teach at each grade level.

Grade Level	Number of Children
__________	__________
__________	__________
__________	__________
__________	__________

7. Which of the following best describes your current teaching position?

____ General Educator
____ Special Educator, Itinerant
____ Special Educator, Resource Room
____ Other (specify) ______________________________

8. Please indicate where your students receive instruction in reading:

____ Special Education
____ Regular Education
____ Other (specify) ______________________________

9. How much time do you allocate (schedule) for reading:

____ per day
____ per week

APPENDIX D

DATA COLLECTION FORM

Student ____________________ School ____________________ Day: 1 2 3 4 5

Setting: Regular Resource Observer ____________________ Sheet # ____________________

Definitions/Coding:

Activity: Type of instruction being provided/established by instructor

Codes:
RP = Reading Practice
FT = Free Time
T = Transition
CT = Can't Tell
O = Other
OR = Other Reading (tests, initial instruction)

Task: Curriculum task or verbal instruction mode in which the student is expected to engage

Codes:
RR = Readers
WB = Workbook
WS = Worksheet
PP = Paper/pencil task
I = Student-teacher interaction
L = Listening
OM = Other Media
CT = Can't Tell
O = Other

Student Response: Behavior in which student is engaged.

Codes:
W = Writing
RA = Reading Aloud
RS = Reading Silently
AA = Asking/Answering questions
D = Discussion
TM = Task Management
IN = Inappropriate
O = Other

Activity																			
Task																			
Response																			

APPENDIX E

PERFORMANCE INFORMATION FORM

Student ____________________ School ____________ Date _________

Setting: Regular Resource Observer ________________

Observation	# Items Correct	Total # Items	% Correct	# Minutes+	Content Name
1					
2					
3					
4					
5					

+ Amount of time spent (minutes) on activity

APPENDIX F

STUDENT INFORMATION

Student	Current Age	Grade Level	Full-scale IQ (WISC)	Years in LD	Reading Level (a) (Resource)	Reading Level (b)	Minutes of LD/week
A	8-11	3	99	2 mos.	3rd	2.3 (2/82)	120
B	8-6	3	120	5 mos.	3rd	2.1 (2/82)	120
C	11-4	4	111	4 yrs.	4th	4.5 (3/83)	120
D	10-2	4	106	1 yr.	4th	3.3 (4/82)	75
E (c)	12-2	5	99	6 yrs.	4th	4.3 (3/83)	120
F (c)	11-2	5	92	1 yr.	4th	4.5 (4/83)	60
G (c)	14-0	6	89	6 yrs.	4th	3.2 (4/83)	150

Note: (a) Reading level teachers placed student's ability and performance

(b) Grade level from Woodcock Reading Mastery Test

(c) Students on Ritalin

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BIOGRAPHICAL SKETCH

Gayle A. Hosek was born on May 14, 1950, in Illinois. Her early elementary years were spent in the small rural community of Woodstock; her family moved to the suburbs of Chicago when she began sixth grade. She graduated from Oak Park-River Forest High School in 1968 and began her undergraduate studies at the University of Florida in September of that year. Gayle received her bachelor's degree with a major in secondary education-English, speech and journalism in 1971 and her Master of Education degree in M. S. Ed. in 1973 from the University of Florida. She began doctoral study at the University of Florida in special education in 1980, completing the requirements for the degree in 1984.

Gayle taught public middle school children for six years in Marion County, Florida. Her first four years of teaching were as a sixth grade language arts teacher; she spent the next two years teaching sixth through eighth grade learning disabilities students in a resource room setting. During that time she was active in the Special Olympics program for Marion County youngsters.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Robert F. Algozzine, Chairman
Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Rex E. Schmid, Co-Chairman
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I certify that I have read this study and that in my opinion it conforms to acceptble standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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December 1984

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